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STRABISMUS: THE NECESSITY FOR ITS EARLY TREATMENT.

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In presenting this paper I make no apology for the fact that it contains nothing new—for Claude Worth, of London, has written an exhaustive monograph on the subject—which contains far more than I shall have occasion to write. I simply add my mite to his strong plea for the early and scientific treatment of squint, because the general practitioner is usually far too busy to read lengthy monographs on special subjects—and it is to him I wish to urge my plea for early treatment, he being in the position of family advisor, and sees the children through their various ills, some of which actually predispose toward squint in the presence of another condition, about which I shall write more at length later.

I have in mind the convergent squint, because this type is by far the more common and practically the only kind which occurs in infancy and early childhood, or that is amenable to non-operative treatment in a large percentage of cases.

Etiology.—Most all text books in discussing the etiology of squint speak of several theories and especially favor that of Donders, who considered the tendency to abnormal accommodation in hypermetropes caused convergent squint. As Worth points out, "the vast majority of children are hypermetropic, and of these hypermetropes only a small percentage present themselves at the clinics; whereas, nearly all squinters do come at some time or another. Yet, even then, one sees at least thirty hypermetropes who do not squint for one who does." I should say the percentage was even lower, judging from a four years' experience in the refracting room of the Massachusetts Charitable Eye and Ear Infirmary, when we average from fifty to seventy-five refractive cases a day. We also know that the majority of high hypermetropes do not squint. Squint not increasing in percentage as the degree of hypermetropia increases, *i. e.*, per number of cases.

Undoubtedly hypermetropia does have some etiological relation to

convergent squint, but it is far from being the chief cause. In the same way inequality in the refractive error in the two eyes, as well as the rare case of real congenital amblyopia have some etiological relation, but have only a slight relation to the true cause.

Worth points out that the fusion faculty, that is, the faculty of fusing the images on the two retinæ, is well advanced by the twelfth month, and complete by the end of the sixth year. His theory is that when the fusion faculty is well developed nothing short of actual paralysis will cause convergent squint, and therefore the essential cause of squint is a defect in the fusion faculty. This satisfactorily explains the cause of true alternating squint as no other theory does.

In speaking of etiology we cannot ignore the fact that heredity enters largely. A large majority of my squint cases give a history of heredity—an important point in connection with other children in the same family.

I shall have something to say in this paper about the method of investigating a case of squint other than that which comes under the head of—

Treatment.—How often have I heard a patient say that his doctor had told him to wait and see whether or not he would outgrow his squint. To be sure, many cases do outgrow their squint, but they do so at the sacrifice of the visual acuity of an eye. Why should we hesitate to operate a convergent squint in a small child which has refused to respond wholly to non-operative treatment, because the faulty technique of twenty years ago has been followed by an occasional divergence?

The principal point in the treatment of squint is that the case should be seen *and the treatment begun* as soon as possible after the squint has made itself manifest. A mother frequently notices her child will squint occasionally. These cases, as a rule, respond quickly and beautifully to correct treatment. She will certainly notice when the child begins to squint constantly, and then she should be advised to consult an oculist, if she has not done so before.

We find in cases of occasional squint and *early* permanent squint good visual acuity in both eyes—and for that reason treatment should be instituted as early as possible. Amblyopia ex anopsia begins early in the squinting eye and progresses often with startling rapidity. Even in very young children the visual acuity can be pretty accurately determined by ivory balls, varying in diameter from one-half inch to an inch and a half. It is possible to be able to restore the function of the retina after the amblyopia has been well advanced, and Worth reports numerous cases in which he has succeeded in re-establishing normal, or nearly normal, vision; where, when first seen, there was actual loss of central fixation in the deviating eye, but these cases were in children under six or seven years of age. After the latter age he considers the re-establishment of binocular vision practically impossible. I might add, parenthetically,

that I succeeded in one case in re-establishing binocular vision in a man of thirty-five years, who had, when I first saw him, a marked case of amblyopia in his squinting eye. From the fact that the vision is rarely restored after seven years, we can readily see the reason for early treatment. Even if we could restore binocular vision in but one case in ten the effort would be well worth while, but the results are so absolutely good that there is left no excuse for deferring treatment.

Those of us who have binocular vision do not appreciate one blessing. It is almost as much better than monocular vision as looking through a stereoscope compared with a flat picture.

The treatment, without going minutely into detail, is very much as follows: The child's eyes are atropinized either with a half per cent. solution of the sulphate of atropine, twice a day in both eyes for a week, or a one per cent. ointment of the atropine sulphate once a day for the same length of time. During the effect of the mydriatic I always have my patient's eye shaded, either with a double green shade or smoked glasses. Aside from adding to the patient's comfort, the shade aids the mydriatic in producing better paralysis of the ciliary muscle.

The patient returns for determination of the refractive error, and by far the best method for children is retinoscopy. The error found is corrected with slight spherical reduction dependent upon the judgment of the oculist. The glasses are to be worn constantly. By the time the mydriatic effect of the atropine has worn off the patient has become so accustomed to them, and dependent upon them, that he wishes them immediately upon arising. It is surprising how well small children, and even infants, bear glasses.

At each visit I measure the direction with glasses on, and also take the vision in both eyes, to see what progress we are making or to be certain there is no backward trend.

After carefully determining the refractive error, we proceed to treat the convergent eye. If this eye has good visual acuity, *i. e.*, 20-30 or 20-20 with glasses, we can either atropinize the *non-squinting eye only* once a day, which will make the patient use his squinting eye for near, and hence keep the acuity high; or else we may cover the non-squinting eye totally for a portion of each day. The former procedure is the better. The child is to report back in a month to see effect. If he still squints constantly with former squinting eye, the treatment should be continued. At the next visit, six or eight weeks after the initial one, we often find the squint has disappeared, especially when the glasses are on, or else the squint has become constant in the previously straight eye. In either case the treatment is discontinued, except for constant use of glasses.

The next visit should be soon, within three weeks, to be certain we have lost nothing we have gained. If the same condition exists we begin fusion training, which is best accomplished by an instrument devised

by Worth and called by him an amblyoscope. This instrument is made of approximately two half tubes joined together by a hinge which allows them to be separated or brought together to suit the angle of the squint. At the end of each tube is a place for object slides, which consist of devices on transparent paper. These are illuminated by electric bulbs or small lamps which can be adjusted as to intensity of light. The devices are portions of a picture which, when blended, make the picture complete; and to make the picture perfect is the object of fusion training. The training can only be done by the oculist himself. The devices are of such character to keep the patient interested. It may take many sittings before we can be sure of fusion, or before we can be certain we have failed.

Should the squint remain at a considerable angle, and we have established fusion, we can operate either by advancement of the external rectus of the squinting eye, or advancement of the external rectus combined with tenotomy of the internal rectus. The tenotomy combined with advancement is only necessary if the squint be of high degree. The same operative procedure can be resorted to in cases which have failed to respond to fusion training, but the effect will be purely cosmetic.

The cases that do fail to respond to fusion training are either of the pure alternating type, which have no binocular center apparently, and hence never fuse, or those cases of hopeless amblyopia which have become so through neglect. Therefore, again, let me repeat: Do not allow the child to "outgrow its squint," but advise early treatment, which, in the vast majority of cases, re-establishes binocular vision, which result in itself frequently restores parallelism, and the child grows up with two useful eyes instead of one, and runs no danger of being deprived of all usefulness later by the loss of that one eye through injury or disease.

THE FEMALE BREAST: SOME OF ITS NOTABLE CHARACTERISTICS AS TO STRUCTURE AND FUNCTIONS, THEIR ELEMENTS AND PATHOLOGY.

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In the study undertaken in the present instance, the aim is rather to review and somewhat critically consider various phases of interest and practical importance than attempt to submit anything that may be claimed as original. The purpose will be rather to expose many erroneous assumptions that prevail, and fallacious conclusions arrived at, in consequence of the inadequate and theoretical teachings in the anatomy of the human mamma, as set forth by the greater number of our modern authors.

My own information on the subject is based chiefly on repeated and

somewhat critical dissections of the breast, at various stages of life, in the maiden, the nursing mother and in those past the menopause. My labors in dissections had not proceeded far before it became clearly evident to me that the commonly accepted view of the structural anatomy and elements, with their relations, were in a large measure erroneous, and that there had been altogether too much servile submission to authority, too much parrot-like imitation and almost verbatim copying of authors from their predecessors without a critical investigation on their own account by anatomists. Moreover, the modern, almost useless sacrifice of *mammæ*, for both curable and incurable lesions, since the inception of the new procedure, having forcibly impressed me that this was sustained by a misconception of the premises, it has been my purpose to discuss and determine whether my conviction could be supported or not by an examination into the functions and structures of the breast.

We find but little in contemporaneous medical literature on functions of the breast. The latest research work in this direction comes from abroad, as our country has yielded practically nothing in this direction, as though this study were a closed chapter, and that nothing more were open to investigation, while our facilities for more accurate scientific studies have so greatly widened.

General Observations.—The human breast, notably that of the female, presents many unique features of striking interest and importance. But comparatively few practitioners have made a deliberate and pains-taking dissection of it in the maiden, the child-bearing woman, or in one past the menopause, or have a correct appreciation of its essential structural characters, or of all its purposes in the economy.

We are at times prone blindly to follow authorities and take for established truths inaccurate statements or erroneous assumptions without attempting verification on our own account.

Moreover, not infrequently we encounter in current medical literature, clinical records of cases, or description of various surgical operations, wherein it is obvious that an ample knowledge of anatomy is wanting on the part of the writer, or, perchance, he has taken second-hand anatomical designation which is warranted only by tradition and has no re-existence in fact.

For example, Keith and Shilletoe in recent researches on some of the historical elements of the prepuce and corona-glandis, failed to find any trace of "Tyson's glands," which, they say, have been described by every text-book on anatomy published since Tyson's time. To quote from the latest edition of Quain's "Anatomy," they add: "Numerous sebaceous glands are collected around the cervix of the penis and coronal glandis; they are named the glands of Tyson, or glandular odoriferous, their secretion having a peculiar odor."

Keith remarks on this: "The strength of faith of the anatomists is

so great that they have for two centuries been describing glands which never existed, and, furthermore, there is no evidence that Tyson ever observed or described them himself."

Without a practical and correct knowledge of anatomy we are building on a foundation of quicksand and are liable to error at every turn. This is well accentuated when we examine critically into the structure of even so superficial an organ as the breast.

No other organ of equal importance is studied in a more perfunctory manner. This, perhaps, is because of its superficial position and the apparent simplicity of its structure and functions; and yet being more commonly the seat of inflammation and neoplastic changes than any other secreting organ of similar anatomico-histological composition, it calls for a critical study into its gross-anatomy, its finer structural elements and other special and characteristic features.

Anatomy.—We will note that the mamma is a very superficial organ—subcutaneous only—and that its larger canals open independently of each other on the surface. It is an exposed organ which constitutes an important physical adornment. It lies flat-wise spread out and aids in giving shelter and protection to the lungs, over an area anteriorly, about the same as that covered posteriorly by the scapular plate. In full development it occupies the greater forward areas of the thorax on each antero-lateral aspect. The nipple in the growing girl lies on the fourth intercostal space on a line with the cardiac opening of the stomach; from this point the lacteal tubes radiate in various directions,

Anteriorly, the mamma rests in near contact with the costal cartilages, the most elastic segment of the thorax.

The breast is a suspended organ supported in position by strong fibrous bands and by adhesions posteriorly with the great pectoral and serratus-magnus muscles over their sheaths.

Through its connections with the axilla and muscular structures it becomes a mobile organ and is consequently more or less influenced by movements of the shoulder.

From its superficial position, it is exposed to atmospheric changes, to accidental contusions, to displacement and sometimes to severe compression by clothing or tightly laced corsets. It may be said that no glandular structure is more tolerant of trauma.

The pectoral prominence maintains no uniform outline nor position, except before puberty. In various individuals it may be scarcely visible or tangible, again it may weigh from ten to thirty pounds and hang down over the abdomen, hence, though said to extend from the third to the sixth rib and to be of hemispherical outline, this is only relatively correct,

In varieties, we have the full firm breast, the heavy large fat breast, the flabby flacid or the flat, the undeveloped, the attenuated or the atrophic, shrunken.

In most instances, the very large organs depend on an excessive development of adipose tissue, volume here, being no certain index of the secreting capacity. The infantile type persists until puberty. Now we have a sudden expanse in growth of the glandular elements; another augmentation in volume obtains during pregnancy; after this a fairly uniform outline remains until the menopause, when the epithelial elements suffer degeneration and resorption.

We will therefore note four epochs of life when the functions and structures of the breast undergo conspicuous changes, Holmes Coots seems to have been deeply impressed with the importance of a full knowledge of structure here, and well says: "The surgeon who desires to discriminate accurately between the different diseases of the breast and wishes to assist the efforts of nature must never be unmindful of the peculiarities of that organ and the important functions it performs in the economy." The anatomy of the breast as described by most authors, is inadequate, faulty and misleading. Strange to say some surgeons regard it as an unimportant organ of no special significance.

The Fibrous Structures, Etc.—The breast is commonly described as "a gland with a capsule." Now it is not a gland at all, when we contrast it with the salivary, renal and other secreting organs; nor has it a distinct detachable capsule. Testut, in his incomparable anatomical work, observes "the preliminary connective tissue is not sufficiently thick nor isolated to merit the name of fibrous envelope, as given it by certain authors." Stiles, of Edinburgh, sounds a similar note when he submits—"the breast tissue is not encapsuled with a compact body, but is so broken up and branched at its periphery that the sheath becomes continuous with the superficial fascia." There is no capsule in the ordinary sense of the term: The mamma is in fact, from a structural standpoint, but a modified cutaneous body. Nor is it a single gland, but an aggregation of glands, each lobe being covered by a separate investing envelope, distinct from the others. There are from eight to fifteen of these in each breast; in various situations they are more developed than in others, the larger lying in the upper or in the axillary zone; each has a separate terminal duct at the nipple. A knowledge of this is of the greatest practical importance in dealing with lesions here, regardless of their pathology.

The French designate the breast as *une glande a grappe*, because of the arrangements of its secreting structures separated into clusters or bunches.

The functioning part of the breast is made up of scattered lobes; these divide into lobules, and ultimately sacculated terminals, the acini. The volume and firmness of the organ is more or less dependent on the degree of activity of these structures, when a thick layer of adipose tissue is absent.

The so-called capsule the fibrous fence-work of the breast presents no

definite arrangement. This is continuous with the aponeurosis of the thorax; a careful dissection of it fails to support the commonly accepted description of it, viz., that it splits into the lamella or a sheath for the secreting structures. The fascia cribosa extends down to the muscle sheaths or the submammary bursa, which at the center is posteriorly, sometimes interposed.

It can be said to only completely invest the galactiferous tubes as they approach the nipple. It has no analogue in the body, it is nearly everywhere pervious for deposits of fat.

There are prolongations of this structure in various directions on the periphery; according to Testut, the broadest or first extends towards the sternum where it blends with the sternal aponeurosis. The second extends as far up as the clavicle, the third towards the hypochondrium, the fourth sends forked projections towards and directly into the skin, the fifth towards the epigastrium and the sixth ascends to the arm pit, the axillary sling where its terminal fibres blend with the lymph nodes, the sheaths of the large nerve and vascular trunks and the capsule of the shoulder joint itself.

Another very short, but thick and dense set of well defined fibres pass directly from the nipple in and between the galactiferous ducts to the pectoral aponeurosis posteriorly. These fasciculi maintain a steady traction. They are not prone to yield in various diseased conditions of the mamma, involving turgescence or in suckling; hence we find the depressed nipple. Again we find evidence of more or less contraction of these fibres as a congenital state, producing a sunken nipple; occasionally it is so closely drawn toward the chest wall, as to become almost completely engulfed by the distending secreting elements during pregnancy. It is somewhat remarkable that little or no notice is given to this important group of fibres by most anatomists.

The fibrous structure of the breast is blended with fat and so incorporated with the secreting structures that its complete isolation is impossible. The general outline of this mat-like framework of fibrous tissue presents the form of a crab; its center the thickest, with long projecting limbs or cords extending far from this point. It contains a large admixture of yellow elastic fibre and is of a tough, resisting character.

Astley Cooper taught, that "if an author would only write on what he was capable of demonstrating in connection with breast tumors, the medical world would not be overwhelmed with crude opinions, theories and conjectures." He justly attached great importance "to a proper knowledge of this very complex structure, the fibrous stroma."

The Panniculus Adiposus.—The main volume of the non-functionating breast consists of fat and a very thick dense matting of fibrous tissue, rich in elastic fibre. "This reticulum supports and protects the gland elements; it is continuous with the skin and ramifies through the breast

in every direction." The overlying layer of fat is usually very thick, with a most complex arrangement; it invests the entire interior surface, except at the nipple and areola; it dips down deeply into the fossettes of the fibrousnet work, between the larger ducts to the larger posteriorly, and may be even traced into the lobes, lobules and inter-lobular spaces. It may be well to note that the investing adipose tissue is continuous with the common subcutaneous of the thorax. Hence, in fat subjects, the breasts are usually pendent, contour and volume largely depending on the extent and arrangement of this tissue. Glandular activity during pregnancy and lactation greatly distend the organ; and it undergoes marked shrinkage after weaning; probably, more or less of oleaginous substance in the investing fat layers finds its way into the acini, and is appropriated by the infant. Fat is the chief nutrient constituent of the milk, and it is natural to assume that in the human being, as in some of the hibernating animals, fat is consumed by the process of nourishing the new born. The mamma is everywhere enveloped by fat, its secretory structures rest on a base of this tissue, and fringes of it penetrate through the parenchyma in every direction. Before puberty it is scant; at midlife very abundant; in advanced age it shares with the general resorptive and shrinkage peculiar to the senile state. The fat of the breast is of a deeper yellow and a more liquid consistence than that found elsewhere in the body.

Form and Volume.—In the young female, before or after puberty, the breast lies fairly flat, inclining outward against the chest wall. But sometimes we will observe large, prominent mammas even before puberty, or in young maidens. In these instances the unusual fullness and volume are dependent on the abnormal development of adipose-tissue in those who tend to corpulency.

We know that while a uniform development of the mammary panniculus adiposus is not uncommon, localized accumulations over various mammary areas are frequently observed: As *e. g.* in one, the main mass of fat lies over the abdomen; again, one may see a female, of whom it is said she has "beef to her heels," while the upper extremities are of only ordinary development; in others, again, we will note a massive circumference of the arms, while the legs are disproportionately small; and so we may often encounter females with heavy, pendulous breasts, who are otherwise of a slight build. In many of these we will discover but scant true glandular tissue. It is important to note that the mamma is more or less movable in the upward direction by a tendinous aponeurosis extending down from the clavicle, but its movement is largely influenced by the shoulder through the pectoralis major, so that when the arm is extended upward and outward the breast is drawn far externally, almost under the axilla.

The Mammary Integument.—The skin investing the mamma is usually divided under three separate heads, viz., that covering the greater areas

of it, the areola and the nipple. The integument here is very thin, fine and not freely movable. In many women while nursing, long, blue anastomosing loops of veins are plainly discernable under the attenuated integument; numerous fibrous strands pass outward from the deep structures and so freely blend with the corium of the integument as to retain both in close relation; hence, we will find that the skin over the breast, not as in other thoracic areas, is so adherent that no sliding movement is obvious, quite the same as in the palm of the hand or the sole of the foot.

The histological elements of the mammary integument are not quite the same as we find them elsewhere. We will note here that the rete-malpighi is poorly developed, the sebaceous follicles mostly are very diminutive, the sweat glands are numerous, the greater number being very fine, with here and there large, deep tubular coils.

Creighton's follicles extend into peri-mammary fat. The rudimentary hairs of the breast are so fine as to be only discernible in various situations under a lense; long, coarse hairs, however, may be sometimes seen growing from the borders of the areola.

The Areola surrounding the nipple is of a pink or vermillion color in the maiden; in the pregnant it becomes pigmented, of a deep brown hue; this tinging, in various degrees, remains permanent. The areola has fewer, but larger sebaceous glands than the surrounding integuments. The base of the areola is in near contact, and sometimes continuous with the fibrous stroma of the breast. In its deeper meshes are lodged several very small lacteal globules, which are tributary to the larger ones in the body of the mamma.

The nipple is sometimes designated the teat; the Germans call it a "wart," which, indeed, it closely resembles. Like the breast itself, we find it of every conceivable outline. In some women it is large, full and prominent, the so-called "erect;" in others, again, it is diminutive or scarcely visible; again very large, but flat, or even inverted and deeply sunken under the skin. The nipple is a tough, elastic structure, which represents the aggregation of from fifteen to twenty separate orifices of the milk ducts, so protected by irregular ridges of dermal investment as to give its surface a very uneven, dimpled contour. Its substance consists chiefly of elastic tissue with smooth muscle fiber, the latter so arranged as to facilitate and control the flow of lactated secretions. The mammilla is an essential constituent of the secreting apparatus of the breast, being, as it were, the center which projects through the integument to the surface; it is the apex of the radiating passages, converging from numerous widely separated areas. On the surface of the nipple may be seen the pappilla of each individual isolated milk duct, where it is constricted forward at its ampulla or sacculation. It contains no sudoriferous ducts, but there are numerous minute glands in its substance, for its own lubrication.

Secreting Structures.—"The full secreting development of the breast is not matured until the end of gestation," says Stricker.

The breast in function is supplied with a secreting mechanism presenting many unique peculiarities.

The quite complete separation of its lobules is noteworthy. Again, its secreting but widely scattered lacteal lobes, in some individuals, is remarkable. We may note that the situation of these is most common at the anterior border of the pectoralis major, in the armpit or even in close relation to the nipple. Koenig regards these aberrant glands as the primary origin of several abnormal changes in the mammary region, the initial occurring in their fibro-cellular investment.

Moreover, the isolated lobes vary widely from each other in contour and volume, although this is not always obvious to view, because of the overlying adipose tissue, yet in palpation a lack of uniformity can be easily discovered. From a mere minute disc about one centimeter thick and two inches wide in the maiden, the matured distended mamma of pregnancy extends from the sternum to the axillary fold, the mamilla lying nearly central over the fourth rib.

Creighton says that the first trace of the mamma's existence is made manifest by a whitish strip of tissue running through a large body of fat, into which spread from the long central tract conspicuous offshoots, the lobules and ducts developing at separate points in the matrix tissue. So passive and latent is the growth of the secreting structures that it is said they are as fully developed at birth as at any time before puberty, and to these narrow limits they again tend to return in the atrophic changes of advanced age.

The hypertrophic changes in the breast in full function is a most remarkable phenomenon. Willis, under this head, observes: "The natural increase of the gland in lactation is one of the most remarkable examples of hypertrophy which can be instanced . . . No other gland is susceptible of such periodical hypertrophy, evolution, involution of the secreting elements after nursing or marked senile atrophy, when only the tough, shrunken fibrous stroma remains, sometimes the consistency of scirrhus."

In the loose connective tissue lying between the galactiferous ducts, the ampullæ and the canaliculi of the acini in various situations, we discover many bodies of the histological character of the papillæ of the integument. Luschke designates them "kernels." He describes their circular outline, their dark center and regular contour.

The terminal ducts in the functionless state are chiefly made up of structureless membrane, but during lactation are covered by an ill-defined epithelial layer.

In no other organ do we discover such extraordinary variations in the anatomical elements of secretion, their transitional character, their frequent mutations from great increase and development to retrograde

changes and atrophy to almost a vanishing point; for it is generally conceded that before puberty and after the menopause only the tubular structures can be at all differentiated, and but indistinct traces of the acini can be discerned.

After function has ceased, the delicate branches and their finer subdivisions, the sprouts and buds sent out from the main lacteal ducts, have so faded out that only their faint outline may be now traced in a delicate brown tinge of fibrous tissue.

The Very Large Sebaceous or Creighton's Glands.—Creighton has given an extended study to what is known as "large sweat glands of man." He regards them as the primary site of malignant disease of the breast. They are found most constantly as a definite glandular patch beneath the integument at the deepest part of the armpit. They may be an inch or more in diameter and of an inch thick. They are said by Champney's to sometimes enlarge to the size of a hen's egg during pregnancy; fluid squeezed from them is milk-like, containing colostrum corpuscles. Ordinarily they secrete a foul-smelling fluid which stains the linen brown.

Zapey, Ludwig and Henle say they may range over the entire area of the thorax. Creighton found them always the most numerous between the nipple and the armpit. Chelius regarded the milk glandulæ here located as only a type of modified sweat glands.

The Lymph Vessels and Ganglia.—Of late years very much has been written about the lymph system in its relation to the numerous pathological conditions, benign and malignant, encountered in the mamma, but why more here than in any other organ is by no means clear; certainly not because our knowledge of the functions of the lymph system has undergone any special expansion of late years, nor has it been explained how a system supposed to be essentially concerned in tissue metabolism and in the absorption of the residual elements of secretion, can by any stretch of the imagination be regarded as specially active in a functionless organ, which the breast really is almost invariably when the seat of neoplastic changes. The theory is entirely untenable. Now, before we attempt to define the role of the "lymphatics" of the breast, it may be well to have an understanding of their constituent elements first.

We are informed that this system consists of "glands and ducts;" here are not included the chyliferous vessels, as they should always be considered as wholly independent of the peripheral. The gland has a capsule. "The vessels have an endothelial investment." The gland is said to have a *cortical* and a *medullary* division, its parenchyma made up of lymphoid or embryonal elements.

Now, in all my dissections on the cadaver, I have never been able to isolate a lymph vessel, nor have I been able to distinctly see one in a hardened microscope section of any tissue whatever.

On the human subject we certainly can find no such description or histological arrangement as is set forth in many works, for we can neither isolate nor expose these for inspection; nor other than blood vessels passing either into or out of the ganglia; but we may microscopically frequently discover areas of epithelia in the parenchyma of the superficial group in the axilla. What office the auxiliary ganglia perform in the economy is yet unknown, though no doubt as ductless structures they elaborate certain ferments or elements concerned in the nutrition of the body.

In this connection a few brief extracts from various recognized authorities may not be amiss.

Flint confesses that "there is much difference of opinion among anatomists concerning the intimate structure of the lymph glands, some regarding them as composed simply of lymph vessels, afferent and efferent; others deny that there is any connection between the vessels, and regard them as solitary glands, like those of the intestines."

Zappey thought he discovered a lymph plexus in the interior of the gland.

Kolliker denied the existence of this plexus, but admitted the compartments or the alveoli, which he describes as closed follicles. Zappey's view that these nodes consist of only fibrous tissue and lymph vessels cannot be maintained.

Gray describes the lymph nodes as "conglobate glands with cortical and medullary structures, the alveoli containing the proper gland tissue."

According to Klein, "the ground substance of all lymph glands, simple as well as compound, is lymphoid or adenoid tissue; leucocytogenous tissue and lymph corpuscles fill the meshes of the lymphoid."

Laboulbène views these structures in another light and observes that "these are of a glandular structure in which the epithelial elements preponderate, wherein the lymph undergoes a change of character as yet unknown. In their trabecular they arrest solid particles, mineral or vegetable."

Coplin: "The lymph glands are structurally composed of a peculiar form of cells massed."

Recklinghausen: "The lymph sinuses of the glands are lined by epithelial cells of a round and polygonal form."

Piersol: "The lymph nodes consist of oval masses of adenoid tissue united by a delicate connective tissue wall. Wheresoever found, lymph tissue consists of connective tissue elements and lymphoid corpuscles."

Kolliker: "Lymph glands nearest approach Peyer's patches, though they do not entirely correspond with them. Their parenchyma consists of fibrous tissue; pulp and blood vessels. They are not as well developed in man as they are in the dog, rabbit, cat or rat. . . . The most

difficult problem in their anatomy is to ascertain if there is any connection with the lymph vessels."

From these glands, nodes or absorbents we turn to the lymph vessels, but in these prosaic times we should be able to demonstrate the existence of them before we set out to determine their course and relations; for it certainly is unfair to make a draft on one's *faith alone* when we approach the subject. Now, there is no possible manner of proving the existence of a system of vessels like injecting it; the nitrate of silver stain is a delusion pure and simple. We find in the writings of Malpighi the first allusion to the lymph vessels, wherein he first describes those coming to and from the lymph nodes. We are informed that we may demonstrate the existence of these vessels. Reeves tells us "by exposing them we must search for them where anatomy teaches us we should find them." But anatomy does not teach us, except from a theoretical standpoint, where we can find them, because it is doubtful if any anatomist has ever seen them in the tissues of the living body. Kolliker thought he saw them in the tail of a tadpole and in the snake's intestine; but the latter were lacteals, essentially accessories to absorption in digestion. Professor Austin Flint, America's most eminent living physiologist, confesses "that the only way the peripheral lymph mesh may be injected is by passing a fine-pointed canula into the tissues where they are supposed to exist." In 1650 Rudbeck described vessels in the liver and almost every part of the body conveying colorless fluid. Shortly after, Bartholinus named them "lymph lactics." Of the functions of the lymphatic ganglia Professor Flint observes that "nothing is definitely known in this direction." He denies that they are in any manner concerned in the formation of the leucocytes. The liquid elements of the lymph, we are informed, are quite identical with those of the blood. It is highly noteworthy that lymph without blood admixture has never been obtained from the human body.

It may be, therefore, summarized that the real functions of the so-called "lymph glands" are yet unknown; certainly there is no unanimity of opinion among anatomists on their structural composition. The peripheral lymph vessels have but a dubious existence. Creighton tells us that no anatomist has yet been able to reproduce the arborescent display of them as depicted by Zappey, and he is inclined to the belief that the artificial vascularization or injection of them is probably nothing more than of the large surface capillaries.

More special consideration has been given to this class of tissues here because we hear so much of the *role* of the "lymph system" in the nulliparous as well as the multiparous, notably in neoplasms of the mamma, benign and malignant. And yet, when we appeal to the fundamental groundwork of anatomy and histology, we find absolutely nothing to support it; nor any reason why "white blood vessels" should be more concerned when the mamma is the seat of disease than any other organ.

Indeed, in the non-functionary state of the breast it is inconceivable how the lymph ganglia can in any measure influence pathological processes at all.

Function, Physiology.—Search where one will, but little can be gathered on all the physiological processes and purposes of the female mammary gland. The general impression prevails that, except as an accessory of the generative system, like the testis in the male and the ovary in the female, or as an organ for the subsistence of the new-born, it serves no important function, though it certainly is true that in many respects it resembles these organs. For example, latency of function in these seed producing organs in no manner influences the general health, though their total ablation unsexes and profoundly effects the character of the individual. Can the sacrifice of both breasts, or even of one, in any manner disorder physiological processes of the individual or be regarded as harmful in its consequences irrespective of the dangers involved in the operation itself?

It would appear that various authors have seriously considered this aspect of the question; therefore, it is with much satisfaction we quote the following from Holmes Coote, who well says: "The surgeon who desires to discriminate accurately between the different diseases of the breast, and wishes to assist the efforts of nature in these, must never be unmindful of the physiological peculiarities of this organ and the important functions which it performs in the economy."

Some of the More Unique Features of This Organ.—No other organ of its importance lies so near the surface. In full development it serves as a defense and a protection to the thoracic contents. It is an organ of dominant importance in the human female, as the mammary prominence in all ages has been regarded as a most essential attraction. Considering its exposed position, the abusive pressure of the corset, the frequently contusive pressure of it in various employments, it is remarkable how rarely it is traumatised. This is the only example in the body wherein extensive force is indispensable for the expulsion of its secretion, as in the process of suckling.

Being a pendulous organ its position is not definite. In the young, and in virgins, its investing sheath and the integument give it such support that its broad, cusp-like surface usually occupies a prominent position. After the menopause its vascular supply is very greatly diminished. At this period, Cooper claimed that its arteries were prone to degeneration. At this epoch in the life of a woman, we may note on deep pressure, that the temperature of the breast is much lower than over other areas of the body. This phenomenon is so obvious in some women as to point with certainty to the low degree of vitality maintained after the processes of reproduction have ceased. The mamilla is exquisitely sensitive to irritations. Some authors speak of an "erection" of the nipple under the influence of emotion; but there can be no

erection here, because it contains no cavernous tissue; but it is rich in elastic and smooth muscular fibre. The muscular fasciculi in the nipple mostly run in two directions, one vertical and one horizontal; others take an oblique or spiral course. In the event of large vascular turgescence with simultaneous contraction of its own, intrinsic musculature, especially, when pressed well forward by the large distended lactiferous ampullæ, the nipple certainly does become hard and so projected forward as to exhibit many features of a genuine erection. Intermittency in function in milk productions is a striking characteristic of the mamma. But has it any other important purpose than the secretion of milk? Beatson's investigations have certainly demonstrated the intimate relations existing between the ovaries and the breasts. During, and even after menstrual life, there is a well-marked chain of sympathy between the breast and the sexual organs. Inasmuch as they are symmetrical bodies and a double amputation of them for malignant diseases, is seldom long survived, it is difficult to estimate just what part these organs serve in the physiological processes. It is well known, however, that despondency with a settled melancholy is one of the earliest and most pronounced symptoms in the outset of mammary-cancer, much like the physical depression consecutive to male castration. The loss of one ovary appears to be followed by no appreciable disturbance of menstrual functions or perversion of nutrition processes; but when both are sacrificed a profound impression is made on the system.

Two cases of complete sacrifice of both breasts in young women have come under my observation; in one, a girl of seventeen years, for enormous symmetrical hypertrophy; the other, a woman of twenty-three years, whose breasts were both simultaneously removed for cystic disease. They have both since married. Neither has yet conceived, though they are enjoying vigorous health at the present time. Complete abeyance in function appears in no very marked manner to influence the general health, and spinsters, as a rule, are, on the average, quite as long lived as child-bearing women; yet, it is well known that maidens and barren women are very much more prone to degenerative diseases of the breasts than those who have reared a family and suckled their children.

Dr. Jennie D. Drenham, in a brief but learned and philosophical essay recently published, sets forth some of the evils attendant on any violations of the laws of the "physiological generative cycle." She clearly demonstrates that menstruation is essentially a pathological process. Hence the breast is, as it were, the head organ of generation, intended by nature for activity of functions from puberty until the age of childbearing is past.

Physiological dormancy of this glandular body is incompatible with its full activity and harmful to its structural integrity, especially in married women or those exposed to periodical exaltations of the sexual system.

Gynecomasia, or that singular peculiarity of form and structure in the male breast, is a remarkable phenomenon; it is said that in advancing years the breast of a man tends to acquire considerable proportions, and that at this stage of life it is quite identical in structure with the mamma of an old woman. It has long been noted that males with non-descent of the testicles, or those with undeveloped or atrophied, quite invariably have large breasts.

Peusch, in the examination of conscripts for the German army, found it to occur once in 15,000 men. Gueber found it symmetrical in thirty-five of forty-six recorded cases.

Gynecomasia occurs in two varieties; one primary, or essential, in which the outgrowth is perimammary fat. This type we may commonly observe in all corpulent males, especially those with a thick layer of abdominal fat. The other variety is essentially due to non-descent or atrophy of the testes, succeeding accident or disease; there is a large augmentation in the volume of the glandular elements of the breast. This latter condition only appears at puberty. Darwin and other investigators of the evolution creed allege that the mamma was originally equally developed in both sexes, and hence they regard this physiological deviation as a reversion process.

LITERATURE.

- Holmes, Coote, *Holmes Syst. Surg.*, Vol. V, p. 217.
 Koelliker, *Manual of Histology*, p. 201.
 Flint, A., *Syst. of Physiology*, pp. 203, 330, 311.
 Le Dentuet, *Chirurgie*, Vol. V, p. 777.
 Cooper, A., *Diseases of the Breast*, p. 121.
 Stricker, *Manual of Histology*, p. 577.
 Reckinghausen, *Physiologie*, p. 412.
 Piersol, *Physiology and History*, pp. 111, 118.
 Carpenter's *Physiology*, ed. ix, pp. 195, 968.
 Coplin, *Manual of Physiology*, p. 2,860.
 Gray, *Anatomy*, p. 87.
 Klein, *Elements of Histology*, p. 93.
 Beckett, *On the Breast*, p. 190.
 Willis and Purdon, *Path. Anat.*, p. 214.
 Foerster, *Path. Anat.*, p. 180.
 Paget, J., *Surg. Path.*, p. 312.
 Creighton, *On the Breast*, p. 217.
 Luschka, *Anat. Des Menchen.*, p. 241.
 Koenig, *Spec. Chirurg.*, p. 78.
 Keith, *London Lancet*, January 16, 1904, p. 228.
 Stiles, *Ed. Med. Journal*, 1892.

THE RECOGNITION OF IMPORTANT EYE LESIONS BY THE
GENERAL PRACTITIONER.*

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It is almost a clinical axiom that the eye is an index to the condition of certain systemic lesions. Seldom, though, do its lesions give rise to a direct involvement of the general system. In but a very limited number of instances do metastases originate in the eye. On the other hand, in numerous instances does a systemic or a single organic lesion involve the structures of the eye. Under these conditions the eye manifestations assume an important factor, both as to prognosis and diagnosis. Purely local ocular lesions, if they produce systemic symptoms, do so more often functionally, not organically.

The relative value of the condition of the eye in certain general systemic or even local organic lesions is not to be underestimated, particularly with reference to diagnosis. Frequently the eye presents the first manifestation of some grave systemic dyscrasia—not only with reference to tabes, brain affections and some toxic complications, such as Bright's disease and diabetes, but to many others as well.

In the detection of certain hereditary stigmata does a careful examination of the eye often yield the only convincing evidence. Furthermore, as our clientele is largely composed of so-called highly strung, nervous individuals, the contributory share of eye-strain often manifested by simple, and rather obscure symptoms, is too frequently denied the relation of cause and effect. Too often, indeed, is the explosion of pent-up nervous irritability brought about by defective eyes, which, to all intents and purposes, seem innocent.

Overzealous enthusiasts ascribe to comparatively insignificant eye lesions an important etiologic factor in no mean proportion of cases of chorea, functional epilepsy and other allied nervous disorders. In this regard the reader wishes to refrain from going as far as some of our eastern confreres, who cure nearly all such cases by the adjustment of properly fitted lenses or graduated tenotomies. In certain hæmic lesions, particularly the milder types, the patient can often be made comfortable, as far as the annoying headaches are concerned, by properly correcting the ametropia. In other words, symptomatic relief in this respect is welcome; later, however, after the cure of the hæmic lesions the eyes will be able to properly functionate without the assistance of any correction.

Not only from the standpoint of eye diseases in relation to systemic lesions ought we to discuss this question; but we shall regard it also from a purely ophthalmic viewpoint. Frequently a patient having an ocular

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lesion consults his family physician, who, not appreciating the more or less obscure symptoms, or not fully comprehending the importance of certain ones present, unconsciously leads his patient on to irreparable loss of vision, not to say at times total blindness. Far be it from me to underrate the diagnostic acumen of the present day family physician. There are, however, conditions of the eye which he apparently fails to appreciate fully either as diagnostic signs or as conditions of grave import. It is the early recognition of the condition, coupled with energetic palliative or curative measures, that in many instances saves the patient from going on to absolute blindness. Often the fullest extent of the systemic lesion is not estimated, and a fairly favorable prognosis is expressed; whereas the patient, because of eye complications, is in the very height of the development of that disease. Either way, it is not so much *through* the eye as *in* the eye that we can ascertain valuable clinical points which have a great bearing at times in solving knotty problems of diagnosis.

In regard to diabetes and nephritis, let it be said that a complete and accurate ophthalmic examination is obligatory in every instance. In either disease the fundus may first give conclusive evidence of the existing condition of the general system. Furthermore, the implication of the fundus during any stage in either disease, is as apprehensive a manifestation as could possibly appear. In either instance the patient seldom survives longer than two years. Statistics have so verified this assertion that mere mention suffices. (Belt, Bull and Suker). As nearly 30 per cent. of all chronic cases of nephritis develop a retinitis we can readily appreciate the value of this finding. In diabetes this percentage reaches as high as 20. (Lecorche, Galezowski).

The lesions of the fundus in both of these diseases are so very similar that it is almost impossible to differentiate them. He who can differentiate these two diseases merely by ophthalmoscopic examination takes too many things for granted. In each case the retinal lesion is dependent in large measure upon the principle of toxins—rather upon leucomaines. The appearance of the lesion is sufficiently familiar to render description superfluous. Early retinal manifestations not often mentioned are small, yellowish lymph nodules at the crotch of the vessels, especially of the veins. They should, however, be differentiated from choroiditis. When a patient presents the usual snow drift degenerative areas in the retina, he is or soon will be at the climax of either his nephritis or diabetes. The prognosis is then exceedingly grave, if not altogether hopeless. (Decapsulation of the Kidney for Chronic Bright's Disease, Elliott and Suker, *N. Y. Med. Jour.*, June, 1904).

In a patient requiring frequent changes in his reading glasses and complaining of basal headaches, with obscuration of vision, or so-called red sight, which is often indicative of retinal hemorrhages, an examination for nephritis or diabetes is indicated. The gravity of the lesion is

in inverse proportion to the age. The swollen or puffy lower lid neither indicates nephritis nor diabetes. Unless a true serous edema exists, with other associated symptoms, one is not warranted in suspecting either disease. No patient succumbing to a pure nephritis ever escapes the retinal lesion—it is bound to appear sooner or later in some portion of the fundus. In this connection frequent conjunctival hemorrhages are quite significant in persons at or beyond middle life. They indicate either an arteriosclerosis with its sequellæ or a nephritis, possibly a meningeal complication.

A sudden squint which fluctuates and is periodic, should always induce one to closely inquire into the possibility of lues. A paresis or paralysis of any of the extraocular muscles, especially the external rectus, associated with an irregularity in the pupils, combined with an annoying diplopia, is a fair indication of beginning tabes. The paralysis of the external rectus, associated with an Argyll-Robertson pupil, is justly indicative of tabes. Many a case remains in what is called the "ocular tabetic" stage (paresis of an ocular muscle and optic atrophy descendens) never going on to the full development of the characteristic spasticity. Many a one is of this type, nearly if not entirely blind because of a descending optic atrophy. The reason, perhaps, why the spastic stage is indefinitely delayed, is due to the forced education of the muscles. Blind people are very accurate in their locomotion though seemingly hesitating. The writer can relate several cases in which there were optic atrophy, Argyll-Robertson pupil, and complete absence of the patellar reflex, without the development of any other symptom of tabes.

It is not infrequent that patients give the entire syndrome of trifacial neuralgia and present but a mild redness of the eye. Often this redness is attributed to the neuralgia when, indeed, it is one of the prominent symptoms of the oncoming glaucoma, the *bete noir* of ophthalmic practice. As far as the similarity of the symptoms of these two entirely different diseases is concerned, it is often difficult to differentiate them save for the associated eye lesions. Every trifacial neuralgia, especially a pure neuralgia of the first branch, should entail a careful examination of the fundus of the eye as well as its exterior. The increased tension of the eye is readily elicited, and such other ocular symptoms as are diagnostic of glaucoma should be looked for. Trifacial neuralgia is an important etiologic factor in acute glaucoma, the latter frequently following in the wake of the former. Periodic neuralgic attacks with congested eyes, associated with the characteristic eyache, should always give rise to suspicion of some variety of glaucoma. If, during these attacks, the tension of the globe does not increase, or the pupil is not moderately dilated, or the cornea not somewhat anæsthetic, or the scleral vessels do not become tortuous, or no reduction in the visual acuity results, then we can be quite certain that our patient is not

threatened with glaucoma. Should, however, any one of the former symptoms prevail, glaucoma is probably present and all antineuralgic treatment will be utterly useless. This condition of affairs occurs not so infrequently in those beyond middle age and preferably among women. A neuralgia of all the branches of the fifth nerve is not so easily confounded with glaucoma as a neuralgia limited to the first and second branches. The importance of these remarks is very obvious when we realize that, unless the true conditions are recognized, the patient will ultimately become stone blind. Whereas, should the condition be recognized a fair hope at least can be given the patient of retaining some vision. How much, however, that can be retained is even then under the most favorable circumstances problematical.

In the anemias, especially chlorosis, the ocular manifestations are too frequently neglected on the part of the practitioner. It is granted that with the cure of the chlorosis the annoying accommodative and convergence strain or the apparent muscular paresis will completely disappear. Yet it is incumbent upon us at all times to give symptomatic relief especially during the period of school life. Annoying headaches, mental lassitude, accommodative asthenopia associated with faulty extrinsic ocular muscular movements, exercise such a drain upon the already impoverished system of the chlorotic, that no matter what means for a cure we institute, the recovery is unduly prolonged and the patient unfit to carry on the school work. On this account, many children suffering from chlorosis do give up their school work. There is no real necessity, however, in many instances for them to stop school, if their eyes are put in such a condition so that no demand beyond the normal would be made upon them. There is no denying the fact that uncorrected ocular lesions in chlorosis seriously impede the *haemic restitutio ad integrum*.

It is not merely hypothetical to assert that certain eye defects play an important role in the proper functioning of the whole digestive tract. My colleague, Dr. Stevenson, and myself have often, by correcting the ocular defect, usually a refractive error, relieved the annoying vomiting in chlorotic school children and in some types of gastritis. With the cure of the chlorosis, these patients often are able to dispense with glasses prescribed for the refractive or muscular error, thus failing to prove a close association between this ocular condition of the patient and the existing chlorosis. In this connection let it be remarked that some obstinate cases of vomiting after meals, which, in general are ascribed to some gastric derangement, have for their etiologic factor some high astigmatic refractive error. The same holds true for *mal de mer* and railroad sickness.

Just as the Koplik spots along the gingival edge of the mucous membrane are diagnostic indications of measles, so are the corresponding conjunctival spots a very early manifestation of the skin eruption.

These spots, which have a yellowish color and appear along the marginal conjunctiva, particularly of the lower lid, are simple superficial ulcers with steep edges and a smooth base. They often precede the general manifestations of measles by several days, if not a week. In this regard then, if the child complains of an indisposition and these spots are present, it is reasonable to suspect an attack of measles, especially if the disease is prevalent. These spots are of such frequency as to permit them to be looked upon as premonitory diagnostic symptoms. They are often the forerunner of the conjunctival inflammation so very common in measles and serve as a means of differentiating the latter from scarlet fever.

In chorea, functional epilepsy, so-called choreic epilepsy and habit spasm, the eye is often supposed to play an important factor. Especially in the facial variety of chorea and petit or grand mal epilepsy are refractive errors frequently thought to serve as terminal irritation points for an explosion of the pent up and perverted nervous energy. It is rather far-fetched to believe that every case of chorea or epilepsy should present eye defects which in any way could be considered in a casual relationship. Yet, in a large proportion of cases there is some refractive error of some moment, particularly astigmatism. This refractive error, if corrected, is thought by some to add much to the comfort of the patient in that it has a tendency to decrease the number of attacks. The refractive errors and the exact dynamic power of the extrinsic ocular muscles are always to be accurately ascertained, not for the purpose of effecting a cure, but simply to relieve any reflex disturbance which may be due to the ocular error. Strange as it may seem, these ocular defects do not necessarily have any bearing in the matter of etiology. Often the correction of low errors of refraction or muscular insufficiencies in the aggravated types of chorea or epilepsy will apparently achieve wonders in allaying irritation. Still, no permanent or even temporary cure has been recorded. In this regard one should never neglect a strabismus or insufficiency no matter of what degree; since, causing diplopia, they may serve as an epileptic aura. Such enthusiasts as Ranney and Gould point to many a case of chorea and epilepsy which were markedly benefited by putting the eye in as normal a state as possible, whether with glasses or something else. In support of this, reference is made to the results achieved along this line at the Craig Colony, New York, by Drs. Gould and Bennet, and also to Ranney's work on eyestrain. The final report of the colony by Dr. Spratling shows, however, that no good was accomplished in the sixty-eight cases; the seeming improvement was only temporary. The writer from rather a large experience personally never saw any benefit accrue in such cases by correcting the error. Sachs, Dana, and Cutler with justice ridicule the idea of eyestrain as a causative factor. The Stevens' theory of tenotomy in these cases has long ago been exploded. The New York Neurological

Society's commission thoroughly reviewed the work some years ago, and their report was extremely unfavorable. Whenever any good results from the correction of the eye defect, it is not *per se*, but because it gives rest to an unstable nervous system. It is presuming altogether too much to say that the refractive or muscular error of the eye has any definite or even reflex causal effect in either chorea or epilepsy. It is not the error, but the nervous system back of this which is at fault. The only good achieved is in the so-called habit spasm cases.

In the confirmed neurasthenic, especially the one of the sedentary habits, careful inquiry into the refractive and muscular condition of the eyes should be made. Many of these patients present peculiar errors, which, if corrected, will materially mitigate the existing conditions. A cursory examination and a hit or miss prescription for the ocular error will not suffice. But a painstaking examination will frequently yield results which verily border on the marvelous. Their complaint of headache is more often real than simulated, though the latter seems to be the view often taken by the attending physician. Proper attention bestowed upon the eye in these neurasthenics, coupled with the appropriate systemic treatment, will accomplish more than either alone. It is seldom that an organic lesion of the eye is found to sustain any causal relation to neurasthenia, but a functional derangement of the eye due to the shattered nervous energy is frequent, and, therefore, demands correction.

In those who are afflicted with a disseminated arteriosclerosis not specific or nephritic, and with no other lesions directly dependent on this vascular condition, the minute subconjunctival hemorrhages that are prone to appear are very significant. These hemorrhages indicate a high vascular tension in the peripheral circulation and serve as a warning. In such cases, though the patient complains of practically nothing, yet measures ought to be instituted to control this cardio-vascular breakdown. Hemorrhages occurring elsewhere than in the conjunctiva are often fraught with grave results. Certainly, in such cases, prophylactic measures are clearly indicated. Furthermore, the extra-ocular vessels afford, in a measure, an excellent means of ascertaining the extent of the sclerosis in peripheral vessels.

Simple senile cataract and chronic glaucoma are more often confounded than there is any justification for. True, in both instances, the gradual oncoming of the so-called blindness, of which the practitioner speaks, is a diagnostic criterion if associated with the characteristic milky lens. This error is often committed in the patients fairly beyond middle life. You cannot place any reliance on the turbidity of the lens, seen by direct inspection, whether the case is one of simple cataract or not. For every lens in the aged shows a physiological haziness. No inflammatory reaction accompanies the formation of an uncomplicated senile cataract, while it frequently is a factor in glaucoma.

With advancing cataract, the pupil does not become dilated, as is always the case in beginning and advancing glaucoma. He who deigns to give advice to his patients in regard to these two entirely different eye diseases should at least thoroughly familiarize himself with their distinctive differential diagnostic symptoms.

The reflex neuroses due to eye strain *per se* are protean, Indeed, the term eyestrain is very elastic. Though the eye may not be perfect in a functional sense, still the nervous and muscular energy exerted will often completely correct the error and permit of no symptoms whatsoever, Just because we have a short bowel, a short leg and other like defects, we cannot justly speak of a bowel or leg strain, for they of themselves may cause no inconvenience or symptoms. Should, however, the mental effort at perception, or the muscular effort of accommodation and convergence, or the recipient function of the retina and the necessary muscular and nervous energy to maintain these, be disproportionate or fail to correct either one or the other, then, and then only, can we justly speak of eyestrain. This holds true for any part the eye may play in so-called functional derangements. Organic changes, such as diseases of the eye, in connection with general diseases, serve only as a single symptom—either diagnostic, prognostic or, perchance, prodromal.

Before closing, the writer wishes to call attention to two conditions, namely, trachoma, improperly called granulated lids, and follicular conjunctivitis. Many is the time patients come with this statement: "My doctor told me that I had granulated lids." Though the patient may have trachoma, yet more frequently is the condition a follicular conjunctivitis. Trachoma is a highly infectious and contagious disease, follicular conjunctivitis relatively little. Trachoma often causes blindness, follicular conjunctivitis never. Trachoma is a disease involving first the interstices of the conjunctiva and then the glands. In follicular conjunctivitis the reverse obtains. Trachoma is often painful, follicular conjunctivitis not; trachoma is exceedingly prone to chronicity, the other not. Trachoma frequently implicates the cornea, follicular conjunctivitis scarcely ever. Yet, a conjunctiva affected with either disease appears granular. Granular and granulated are merely descriptive terms of certain pathological lesions, and not the specific term for any disease. It is far better to say that a patient has a catarhal condition of the conjunctiva than granulated lids, which term the laity invariably construes as trachoma and is so mortally afraid of. A trachomatous conjunctiva in the early period appears as if strewn with fine white sand, while in follicular conjunctivitis it appears red. It is better not to use the descriptive term granular or granulated when speaking to the laity.

There are many more interesting points to be mentioned in this train of argument. But the few comparisons will fully suffice to show that

frequently the eye will serve as a valuable means to an end not only in diagnostics, but in prognostics as well. It is deemed superfluous to cite illustrative cases, as they would, at least, be burdensome, and could not add any new data, but would be an infringement upon the time of the society.

REFERENCES.

1. Ayers, S. C.: Eye Strain and Its Results. Cin. Lancet Clinic, August 22, 1903.
2. Mitchell, E. W.: Eye Strain from the Standpoint of the Physician. Cin. Lancet Clinic, August 22, 1903. (Reviews the writings of Gould, Weir, Mitchell, Ranney.)
3. Zenner, Phillip: Eye Strain from the Standpoint of the Neurologist. Cin. Lancet Clinic, August 22, 1903.
4. Knies, Max: The Eye in General Diseases.
5. Gower, Wm.: Medical Ophthalmoscopy.
6. Suker, G. F.: Fundus Lesions and Their Relation to General Diseases. Toledo Med. Journal, March and April, 1903.
7. Merrill, C. S.: Eye Symptoms Indicative of General Diseases. Albany Medical Annals, July, 1904.
8. Jessop, W. H.: Ocular Manifestations of Syphilis and Their Treatment. Practitioner, London, Eng., July, 1904.
9. Spratling, Wm. P.: Non-Operative Relief of Eyestrain for the Possible Cure of Epilepsy at the Craig Colony. Amer. Med., April 2, 1904.
10. Schwarz, O. (Leipzig): Die Funktionspruefung des Auges und ihre Verwertung fuer die Allgemeine Diagnostik. Berlin, 1904.
11. Connell, J. C.: Eye Strain in Arteriosclerosis. Canada Lancet, 1904.
12. Gradle, H.: Eye Affections Indicative of Nervous Diseases. Chicago Med. Record, January, 1903.

TYPHOID PERFORATION—A FAVORABLE CASE.*

By FRANCIS REDER, M. D., St. Louis.

The surgeon, no matter how confident in his ability, will always feel a certain amount of reluctance when called upon to operate for a typhoid perforation. The reason for this is obvious; he has to deal with an organism that has been depleted of strength and resistance by a continued fever; an organism that has been weakened by the dietetic regime, so essential where the clinical importance of the intestinal lesion is the principal issue; again the correctness of the diagnosis will cause the conscientious surgeon no little concern.

With reference to the latter, much can be said. The clinical picture of a perforation will be always more or less clouded in the majority of cases. There is no positive sign by which a perforation can be interpreted as absolutely having taken place. From pain, cold extremities, rapid, feeble pulse, drawn, pinched features, profuse sweat, short sighing respirations, tympanic abdomen, the inference can be made that a perforation has taken place; such a picture, however, is more closely and more frequently allied to a late peritonitis without perforation

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The only assurance that a physician can obtain in feeling reasonably sure that a perforation has taken place, is when after a tranquil stage during favorable progress, the patient is suddenly seized with a sharp and excruciating pain in his abdomen, accompanied by symptoms of collapse. If, during this crucial period, which may last for several hours, before nature's forces have succeeded in overcoming the effects of shock, no diagnosis of perforation has been made, the probability of making one later will become more and more a matter of conjecture, because the classical picture of the lethal manifestations of peritonitis will efface the true character of the condition.

It is here where the greatest value of time will be lost. I am opposed to operating for a typhoid lesion when we are doing so only on suppositions, even if they are strong; but when an interruption of the nature above described has taken place, I should unhesitatingly open the abdomen, the same as I would in an attack of appendicitis, where the clinical picture would indicate a perforation. I can see much that these two conditions have in common, as far as the surgical feature is concerned. The technique of dealing with the involved part of the intestines will not disconcert the practical surgeon much. It will be his aim to place that part of the affected intestine in as safe a condition as can be done in the least possible time. If the perforation is a small one and the surrounding tissues are in a state to permit a suture to be placed, a Lembert suture, reinforced, is the method to be chosen. If, however, the perforation is of large size, such as we find when two or more small patches have coalesced, where the surrounding tissue is edematous, the intestine should be sutured to the parietal peritoneum, and free exit given to the intestinal contents. Such a fecal fistula, should the patient recover, may or may not close spontaneously. The tendency for such fistulæ is toward closing, without any secondary surgical intervention.

If the unfortunate condition should prevail, in connection with a perforation, that the end of the ileum be the seat of one large gangrenous patch as I have observed in post mortem, then I would treat the condition the same as I would a bowel that had become gangrenous by strangulation in which an endeavor was being made to revive it, *i. e.*, withdrawing the affected portion of the intestine from the abdominal cavity, and protecting it with hot saline compresses: or, if withdrawing the bowels from the cavity would be partly or wholly impossible, a thorough walling off of that portion of the intestine from the rest of the abdominal cavity would most likely prove the safest plan. If recovery ensues, the condition is corrected by a resection.

Resection, as a primary operation, entails additional dangers in typhoid cases, on account of the length of time such an operation must require, and the probable loss of blood that might ensue. It is only to be recommended in the most favorable cases; however, I do not think I

could convince myself of anything in an operation for a typhoid perforation that could be called favorable.

We must never lose sight of the fact that we are working upon an organism of very low resisting power, an organism that will continue to suffer from the deleterious effects of the disease for some weeks to come after our operative work has been completed, and that the least amount of meddling will be productive of the greatest amount of good for our patient.

Mr. G. R., age fifty-five, holding a very responsible position, was taken ill three days after an arduous task. I was asked to see him, and he informed me that he had a bilious attack, of which he would like to be relieved. The examination revealed temperature 102° , pulse 110. The man looked very tired. The tongue was angry red and dry, the patient constipated. The usual remedies were administered to relieve his bilious condition, with a good result. The fever, however, continued. On the third day diagnosis of typhoid fever was made. The clinical picture then had become so pronounced that it was an easy matter to make the diagnosis from the symptoms as they presented themselves without having recourse to tests. At the patient's request he was taken to Mullanphy hospital. The case ran a normal course. There was at no time an untoward symptom. The only unusual feature about the case was the irregularity of the temperature curve, although never exceeding 102° after he had been placed in the hospital. Yet such a temperature would show itself in the morning with a temperature of 99° in the evening, whereas frequently we would meet with a temperature of 99° in the morning and 102° in the evening. While at the house he made several attempts to get out of the room. No recurrence of that, however, took place while he was at the hospital. The medicinal treatment was practically eliminated. The diet consisted of the diet that a typhoid patient should have. A nurse was placed over him constantly. The patient had very little to say, never lost consciousness, never complained of pain. The bowels moved normally without assistance.

May 29th his temperature showed 103.8° in the morning. The following day his temperature showed 99.2° in the morning. From that day on progress continued most favorable until July 12th. I saw the patient at 7 o'clock in the morning on July 12th. He then had a temperature of 99.4° , pulse 92, was very comfortable. At 2:40 that day I was asked to come to the hospital immediately. I reached there in about twenty minutes. Found the patient in great distress, complaining of intense pain in the right iliac region. The pain radiated over the whole abdomen, the features were pinched and the whole body cold, every indication of a profound collapse. The abdomen was markedly tympanic; marked muscular resistance more pronounced on the right side, temperature 104° , pulse 132, respiration 26. It was not difficult to surmise the cause of this condition after the case had progressed so favorably. The

necessary remedies were applied to counteract shock. At the same time the tincture of opium was administered. At 6 P. M. the temperature was 105.5°, the pulse 100 and respiration 22. The patient felt very comfortable, but was still cold. At 12 o'clock midnight the temperature was 100°, pulse 90, respiration 20, the patient very comfortable, the body covered with perspiration and warm. A favorable period then set in, lasting some ten hours. Until that time the temperature ranged at 9:30 P. M. to 100°, pulse 110. For the rest of the time the temperature was 99.4°, with a variation to 99.7°. The patient felt very comfortable, complained of no pain and said he thought he would get well. July 14th, at 7:30 A. M., unfavorable symptoms manifested themselves. Pain returned, tympanites became very pronounced and the picture of a general peritonitis began to develop. This condition lasted until 4:35 in the afternoon, when the pulse became so rapid that it was hardly to be counted, the temperature, however, remaining at 99.9°. At 6:04 o'clock the patient expired, having retained consciousness up to the last.

During the week preceding the perforation the patient had a normal temperature for two days. He was permitted, at his request, to sit up for a half hour in the morning and a half hour in the afternoon during that week. This was done because the patient had expressed a desire to go home, that he was feeling very good and thought he could gain strength more rapidly in his own home. His diet, however, was never changed, not even to a semi-solid diet. The peculiarity of this case was that perforation took place at so late a date in a case that in every way presented itself as a mild form of typhoid fever. No autopsy was permitted.

THE BLOODLESS TREATMENT OF PHIMOSIS.

By E. C. GEHRUNG, M. D., of St. Louis.

The Bloodless Treatment of Phimosis.—GERSON (*Therapie der Gegenwart*, February, 1904).—The prepuce is pulled over the glans with left index finger and thumb, after which a dull pincette with closed branches is introduced into the sack. The pincette is permitted to spring open which dilates the prepuce. This process is continued for one-half to two minutes daily, and in several weeks a cure is produced. The mother is instructed to dilate the sack twice daily by pulling prepuce apart with index finger and thumb of each hand. This method is available only in infants and children.

Some time ago I happened to notice this little abstract in the *St. Louis Medical Fortnightly*, and having had forty years' experience with this new (?) method I may be excusable for offering this experience to the readers of this journal, especially as it is not a plea for priority. I thought the method so simple that it must have been practiced from time immemorial and therefore not worth publication, especially as the

trend of the times was then so strongly in favor of the bloody operation or circumcision.

Just forty years ago I met my first case of infantile phimosis in my private practice, and it happened that the parents absolutely refused to have the child circumcised though he suffered from difficulty in micturition accompanied with neuroses. It was then that I devised and practiced the below described bloodless treatment to extricate myself from the dilemma in which I found myself entangled.

The redundant tissue in front of the glans in phimosis is not a true prolongation of the skin and mucous membrane but of the skin alone; invaginated within itself it reaches back to the mucous membrane which surrounds the meatus. By drawing back the skin of the penis this portion reluctantly disappears, and thus discovers the true stricture of the prepuce around the meatus. By continuing this traction gently, while pressing the glans forward, the pseudo stricture may gradually give way and by degrees the glans will become exposed, when practically the whole operation is finished,

Infantile phimosis is not a true stricture, it depends on an arrest of development, the non-occurrence of the complete separation of the two apposed mucous surfaces—that of the glans and that of the prepuce, which show on forcible separation an interlacement of the opposite epithelia, which will pull asunder like the bristles of two brushes stuck together, usually without loss of blood. This epithelial connection is generally the cause of congenital phimosis and the consequent mechanical and neurotic complications by preventing the independent growth of the prepuce and the glans. Therefore, we find (1) strangulation of the glans and (2) retention of the smegma in the sulcus behind the corona glandis, which, as it increases in this inelastic sheath, begins to infringe on the lumen of the urethral space and thus causes the different urinary difficulties as well as the secondary neurosis.

The operation, as hinted above, appears very simple. It is by no means always so. The way I have performed it is: Retract the skin on the penis until the redundant part which is in front of the glans disappears and the meatus urethralis, and the meatus præputialis are exposed. Then insert a blunt and flat instrument like the eye part of a needle, probe between the foreskin and the glans down to the sulcus and sweep this around the glans from one side of the frenum to the other side of the same. The foreskin being thus released from these pseudo-adhesions, all that remains to do is to squeeze the glans out of the prepuce, a process somewhat similar to the squeezing a stone out of a cherry. The sulcus must be completely exposed and the smegma thoroughly removed; the entire exposed part well oiled and the foreskin returned to its former place. The retraction and oiling should, on account of the soreness of the parts, not be repeated before forty-eight hours.

The difficulty and pain usually occurring at the first micturition can be overcome by immersing the organ in warm water or by giving the child one or more grains of some one of the bromides immediately after the operation. Avoid exposure to cold, etc. The retraction must then be repeated; at first, every twenty-four to forty-eight hours, then gradually at longer intervals. Whether simply retraction or stretching by forceps, or any other means be practiced, the prepuce will contract again in a shorter or longer time if neglected, unless the prepuce be allowed to remain permanently retracted, which can be obtained by leaving the glans exposed for a gradually increasing time until it becomes tolerable of permanent retraction. Should the individual or his attendant neglect the retraction or the permanent exposure, the phimosis with all its consequences may return at any subsequent period of his life. This omission has driven many of my earlier cases in later life to submit to circumcision and others to suffer for the want of it, while those who have carefully attended to my injunctions have reaped as complete a benefit as if circumcision had been done.

This method is a good substitute for circumcision, provided the necessary after attention is given to it; on the other hand, circumcision will give a permanent result at one sweep, without possibility of a return of the trouble.

EDITORIAL COMMENT.

ECLAMPSIA.

In a recent number of the *Zentralblatt fuer Gynaekologie* (No. 37, 1904), Hitschmann of Schauta's clinic in Vienna, gives a short record of a case which, for some time to come, will always have to be considered in any discussion of the etiology of eclampsia. A patient, eighteen years old, developed eclampsia in the fifth month of her second pregnancy. On account of her very unfavorable general condition immediate emptying of the uterus was decided upon. The cervix was forcibly dilated by means of a colpeurynter and a hydatiform mole removed. The degeneration was a complete one, and not the slightest trace of a fetus could be detected.

A point of considerable interest in the history of this case is the fact that eclampsia in so early a stage of pregnancy is an extremely rare occurrence. Fehling, in his report on eclampsia before the German Gynecological Congress in Giessen in 1901, states that in 516 cases this complication of pregnancy developed but five times before the fifth month, and even these five cases are not fully authenticated.

But the chief importance of Hitschmann's case lies in its bearing upon the much debated question of the etiology of eclampsia. Almost all writers agree at present that the eclamptic convulsions are due to toxic substances circulating in the maternal blood. It is extremely probable that on account of an insufficient action of the kidneys and other eliminating organs, a pathologic amount of toxins is retained in the maternal organism. But these same writers disagree widely as to the source of this poisonous material. The more noteworthy of innumerable different theories which have been advanced may be grouped in two classes. The one would comprise the so-called fetal theories which, in a more or less different way, proclaim that the toxic substances are end-products of the fetal metabolism. In the other group we would include all those hypotheses that are based upon Veit's theory of the deportation of chorionic tissue into the maternal system during pregnancy. In his opinion, by the contact of this deported tissue with the maternal blood, certain lysins and toxins are formed, which, if not neutralized by an adequate amount of antitoxic bodies, lead to a pathological degree of toxemia with its sequelæ, *e. g.*, eclampsia. Veit's theory has been supported by many recent investigators, among whom we will only mention Weichhardt or Ascoli, and there seems to be little doubt that this theory is fast gaining ground over the older fetal theories.

The extreme importance of Hitschmann's case may readily be understood. In his case there was no fetus existing. This one observation positively sets aside the one very strong argument of the defenders of

the fetal theory that eclampsia never develops in the absence of a fetus. Hitschmann's case must be considered an ideal experiment upon the human being. It furnishes the one support needed by the theories, classed above in the second group. Eclampsia may develop in the absence of a fetal metabolism. For this case hardly any other explanation seems acceptable than that the source of the toxic substances must be found in the ovisac.

Hitschmann himself is rather cautious in his conclusions. He does not accept Veit's theory in its full scope, because, in his opinion, the formation of syncytiolysins could never be brought into harmony with the fact that autolysins do not develop under normal physiological condition. The writer admits, however, that his case invalidates Fehling's contention that the toxins of eclampsia always issue from the fetus, and that it brings additional proof to the theory, first advocated by Veit, that the ovisac may be a source of the toxic material, which is responsible for eclamptic seizures.

TYPHOID MORBIDITY AND TYPHOID STATISTICS.

In the hygienic and sanitary consideration of typhoid fever, a knowledge of the occurrence and condition of every single case is of prime importance. Public hygiene and sanitation have not to do with the treatment of the single patient but with the protection of the entire community. Such protection is impossible if the existence of typhoid is not at once brought to the notice of the proper authorities. Our theories concerning the spread of typhoid lately have radically changed. The belief that the disease is transmitted in most cases by water, milk or some common supply of the daily necessities has been abandoned, and in the typhoid of our cities we now begin to understand the effect of direct or indirect contact of the secretions of a typhoid patient with healthy people. An epidemic of typhoid due to the water supply has perhaps never existed in our city and typhoid has been absolutely of an endemic character. Such endemic typhoid cannot be stamped out alone by supplying pure water, milk, etc. These cases are not even eliminated by a perfect system of sewage disposal. But they can be eliminated by preventing typhoid bacilli to stray out of the body of the patient or convalescent, without being arrested and destroyed. Here alone lies the danger, and here, therefore, every attempt at exterminating the disease must begin. It is not difficult to control the infected person as long as he is sick, but very often carelessness and neglect are observed even here. The problem becomes, however, more complicated, since we know that the excretion of bacilli by feces, urine and even sputum, may continue for many months after the subsidence of the infection, and still more by the fact that even individuals in perfect health and with no previous history of an attack pointing to typhoid may carry pure cultures of typhoid bacilli

in their intestines and eliminate billions of the organisms every day for a long period. It will be a long time before such radical measures may be taken in our country as have been taken in certain parts of Germany; a long time before even the necessity and, at the same time, the feasibility of these measures will be recognized. But what could be done, and what ought to be done, is the close observation of typhoid patients and convalescents. The attention given to the simple measures, to comply with this observation, is almost *nil*, and we may say that practically every typhoid patient today is freely a source of infection during and long after his sickness. This is our typhoid, not typhoid from our so-called polluted water. Ample facilities ought to be furnished by the authorities to make such observations possible. The sanitary gain would largely outweigh the expense. But even for this we will have to wait a long time with our present method of conducting public affairs.

The only means by which at this time a certain degree of relief can be secured is in the hands of our profession. Every case, even the lightest and most atypical one, should be carefully investigated, and if found to be suspicious of typhoid infection, should be reported. As it is now, our typhoid statistics are absolutely futile, and it is entirely justifiable to assert that not more than one-third of the cases of typhoid occurring in a community come to the notice of the authorities as such. Typhoid very often offers immense difficulties to diagnosis—typhoid is only rarely the typhoid pictured in our text-books. The greatest and most accessible facilities ought to be, therefore, at hand to assist the practitioner in clearing the diagnosis, not so much for the interest of the single patient as for that of the people at large. Even such a highly overrated assistance as the so-called Widal reaction, as made in our public laboratories will be welcome in many cases. It is highly to be regretted that even this aid to diagnosis can be shut off for a period through political influence or mistaken financial considerations as has occurred lately in our city. Our profession can do a great deal to lower typhoid mortality by accepting the conviction that we must not think of the water, milk, etc., first, but always watch the secretions and excretions of our typhoid patients.

“THE AMERICAN JOURNAL OF UROLOGY.”

We welcome with much pleasure the first issue of “*The American Journal of Urology*.” Since *The Journal of Cutaneous and Genito-Urinary Diseases* discontinued the genito-urinary department, there has been an urgent need for a special journal upon urology. This hiatus in American medical journalism seems now supplied. Our best wishes for success!

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

Sclerosis and Dilatation of the Coronary Arteries of the Right Heart Caused by Digitalis.—VON OPENCHOWSKI (*Berliner Klinische Wochenschrift*, No. 40, 1904) maintained formerly that digitalis augments or strengthens the action of the left heart only through dilating *ad maximum* the left coronary arteries and at the same time diminishes the action of the right ventricle through a contraction of the right coronary arteries. The author cites a case, however, in which the sphygmographic tracings demonstrate the difference in the strength of contraction of the two ventricles. The action of the right ventricle was strong and forcible while that of the left was very weak. This the author maintains could be due only to the difference in the blood supply to each through their coronary arteries.

The autopsy proved the diagnosis correct. The diameter of the right coronary artery was 14 mm., while that of the left was 8 mm. He believes that this could only have occurred through the strong influence of digitalis on the right heart.

A Contribution to Cytodiagnosis in Pleural Effusions with Especial Reference to the Tuberculous Form.—CARTER (*Medical News*, October 1, 1904) refers to the extreme importance of a positive and early diagnosis in suspected tuberculosis, and calls attention to the frequent opportunities offered for such by the examination of pleural effusions. He reports the results of his examinations in several series of cases, viz., those with pleuritic effusions of proven tuberculous origin, those with pleuritic effusions of probable tuberculous origin and those with serous pleuritic effusions following lobar pneumonia.

He finds that a true pleural effusion has a specific gravity over 1,010, with an average of about 1,018 and large per cent. of albumin; a pleural transudate has a low specific gravity with an average of about 1,008, with little fibrin and albumin.

A specific gravity of 1,012 to 1,024, a large amount of albumin and fibrin, with an accompanying lymphocytosis point to the diagnosis of tuberculous pleurisy. Frequent examinations may be necessary, for it is claimed by some authorities that a polymorphonuclear leucocytosis may be found before the third or fourth day of a tuberculous pleurisy. The temperature is usually 103° F. or over at the onset.

Postpneumonic serous effusions have a high specific gravity 1,016 or over, contain much albumin and fibrin, with a polymorphonuclear leucocytosis. The temperature is usually lower than in the tuberculous cases.

The differential diagnosis between a pleural transudate and a tuberculous pleurisy cannot rest alone on a differential cell count, as they

both show a lymphocytosis, but must rest on a more complete examination, including the specific gravity and the amount of fibrin and albumin.

Preliminary Report of Two Cases of Leukemia Treated with the Roentgen Rays.—FRIED (*Muenchener Medizinische Wochenschrift*, No. 40, 1904) recommends the application of the x-ray in the treatment of leukemia, and reports two cases in which his results seem to justify the treatment. In these cases the subjective symptoms were greatly improved; the number of leucocytes in the blood returned to the normal; the number of red blood corpuscles and the amount of hemoglobin were increased; in one case the spleen became decidedly smaller, in the other perceptibly so. The improvement was so prompt that there could be no doubt, in the absence of other treatment, that the x-rays brought about these results. The author is in doubt as to the permanency of the results, but recommends that the treatment should not be stopped too soon. It may be necessary to continue the applications of the rays even after all of the symptoms have practically subsided.

An Analysis of Forty-two Cases of Venous Thrombosis in the Course of Typhoid Fever.—THAYER (*Medical News*, Vol. 85, No. 14) has gathered a few statistics concerning venous thrombosis in typhoid fever. The material from which these statistics are made comprise about 1,463 cases of typhoid fever observed during the last fourteen years at the Johns Hopkins' Hospital. In this number there are recorded forty-two instances of venous thrombosis. He finds that the onset almost invariably occurs in the third week. There was a fatal result in 12.3 per cent. of the cases. The seat of the thrombosis was in the lower extremities in forty instances, on the left side of the body in twenty-six cases, on the right side in five and on both sides in nine. The time of onset of the symptoms was almost always in the third week or later.

Fever was present in thirty-six cases and chills in eleven cases. The first definite symptom in every instance was pain, though in several instances the chill preceded the appearance of localizing symptoms.

In all of the cases there was swelling of the affected parts; in most instances the temperature was raised, and in a number of cases there was redness of the affected vessels.

In twelve of the cases the leucocyte count was above 10,000, in fifteen cases over 9,000 and in three cases over 20,000. The degree of leucocytosis seems to depend upon the extent of the lesion. A sudden severe pain in the lower part of the abdomen during the latter part of the disease, associated with leucocytosis, should always point to the possibility of iliac thrombosis. The after effects of thrombosis of the lower extremities are often grave; the immediate danger, however, is not great. The extremity is often permanently enlarged and decidedly weak and presents varices which sometimes result in ulceration. The author calls attention to a characteristic triangular area of varicose veins on the abdomen observed in cases of thrombosis of the femoral vein. This is due to the fact that a part of the blood from the affected extremity is often carried up by the iliac vein of the opposite side, the current crossing the abdomen through anastomosis in the hypogastrium.

Two Cases of Echinococcus with Rare Localizations.—GRAY (*Wiener Klinische Wochenschrift*, No. 34).—The localization of the echinococcus cysts outside of the large body cavities, especially the abdominal, are comparatively rare. About 70 per cent. of all cases occur within the abdominal cavity and chiefly in the liver. In a careful review of the literature, unilocular echinococcus cysts have been reported elsewhere as follows: on the head, 9; on the neck, 26; on the hips and buttocks, 65; on the upper extremities, 25; on the lower, 75.

The two cases observed by the author were located on the thigh and neck respectively.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

Ulcer of the Lesser Curvature, the Anterior and Posterior Walls of the Stomach.—RIEDEL (*Archiv fuer Klinischen Chirurgie*, Band lxxiv, Heft 3).—The rich experience, keen power of observation, as well as the dramatic style in which he always writes, makes an article from Riedel's pen a matter of interest at any time, no matter what the subject. As to the spontaneous healing of gastric ulcers, we are told by the pathologist that this is common, judging from the superficial scars which they frequently find in the mucous membrane of the stomach. But Riedel says these minor lesions are by no means the marks of disease which has caused serious stomach symptoms during life; they are seen rather as scars involving all the coats of the viscus and forming dense adhesions to surrounding structures. The truth of the matter is that very few die with spontaneously healed ulcers, since 25 per cent. to 30 per cent. of all those affected die unless operated upon. Just as in gall stone disease, it is not enough to make a diagnosis of the presence of the stones; their exact location must be foretold, if the surgical therapeutics are to be of avail. Riedel excises ulcers of the lesser curvature and then sutures the resulting defect, though, as he mentions, this may be of astonishing size, even though the ulcer was small. An interesting point in the diagnosis is that a tumor of the stomach is driven to the left of the vertebral column by the volume of the liver in the right hypochondrium, unless there be adhesions formed in the gall bladder region, when the mass is drawn over to the right. There is always pain, referable to the ulcer of the lesser curvature, which lies normally in the middle line; but if a tumor forms, this is, as explained, crowded to the left side, so it comes about that we feel the mass under the left ribs, or, if we do not succeed in feeling it, the patient complains of pain in that region. All the more common symptoms are mentioned, but the author places chief dependence upon severe and long-continued pain in the left hypochondrium. The fact has been frequently referred to by American writers that the technique in some of the German clinics is far behind that of our own hospitals, so one is hardly surprised in an article like this one to note that Prof. Riedel goes into the question of leaving a tampon

in clean abdominal wounds, when that matter was long ago settled in this country.

Another fact that cannot escape attention is that some of the partial gastric excisions reported lasted as long as three and one-quarter hours, and, what is more remarkable, some of the patients got well. Out of five gastro-enterostomies, three cases were lost. This may be partially explained by the fact that one such operation took two hours. In one case the abdominal sutures (material not mentioned) gave way before the wound had healed, and the patient died. In another case it is related that much intestinal contents was spilled into the peritoneal cavity, and so on are related a number of occurrences which would be unusual, to say the least, in a first-class American hospital today. However, Prof. Riedel's writing is always so frank and honest, to say nothing of being interesting and instructive, that the reader can always consider himself favored.

The Treatment of Recent Fractures by a Metal Clip.—DUJARIER (*Revue de Chirurgie*, No. 8, 1904).—The author has treated four cases in this manner, viz.: Two of the tibia, one of the femur and one of the radius. The clip resembles an old-fashioned double carpet tack somewhat, being "U" shaped and having the connecting limb longer than the two sharp-ended ones, which are driven into the bone. After reduction of the fracture two holes are bored, and then the two points of the clip inserted, after which the whole is driven home with a hammer, not by blows in the middle, but by the intervention of a "set," consisting of a steel rod fashioned to fit the ends of the connecting limb. If blows are delivered upon the middle of the clip there is great likelihood that the two branches will separate, and thus the fragments of bone be carried out of a line. The diameter of the branches must not be too much out of proportion with the holes, or the blows of the hammer be too hard, else the bone can be split. It is usually not necessary to use more than one clip, though the author has made use of two on one occasion. As to his results, they have been functionally perfect, and no infections have been encountered. In trying to remove a clip, one month after its insertion, it was found to be perfectly solid, hence still performing its function. There is no reason for attempting to remove one of these things from a bone covered by plenty of soft material, though pain may be occasioned by the skin coming in close contact with it. There is no indication for the use of this contrivance if there be much fragmentation at the side of fracture.

Cancer of the Large Bowel.—C. H. MAYO (*The Medical Sentinel*, October, 1904).—It is interesting and of the greatest practical value to note that death from cancer of the bowel occurs in more than one-half of the cases before the regionary lymphatics have become involved—that is, at a time when there is still a prospect of lasting benefit from operation. The small bowel is much richer in resorbent lymphatic apparatus than is the colon, hence it is that secondary involvement is much earlier in malignant disease of the small than of the large bowel. So it is that cancer is more malignant in a young than in an old subject, for the reason that the lymphatic apparatus is less active in the latter. When the

colon is involved anywhere between the cæcum and the rectum, most cases will require an explorative operation before the nature, location and extent of the disease can be accurately told. The Mayos have a most ingenious way of treating the colon after resection. They suture the circumference, end to end, for two-thirds of the way around, and then leave the remaining opening as a fæcal fistula; the sides of the two limbs of gut are sewn together and later crushed through, then the fistula closed. When the ends of the bowel cannot be brought together, the lower end of the proximal gut is sewn to the skin and the distal end joined to this laterally.

For high rectal cases the operation is commenced in the abdomen, an artificial anus made through a McBurney incision, then the lower segment pushed down, the belly closed and the operation completed from below.

Gastro-enterostomy with the McGraw Elastic Ligature.—TIEFENTHAL (*Beitraege zur Minischen Chirurgie*. Band, xliii, Heft 3).—This German assistant at Czerny's clinic is enthusiastic over his experimental success with the elastic ligature. It was at this same clinic more than anywhere else in Europe that the Murphy button received recognition a few years ago; a matter worthy of note when it is considered that many of the Germans refused to consider many surgical suggestions, for the simple reason that they are of American origin.

The author makes a new suggestion for the use of the ligature method in a special field, viz., the congenital pyloric narrowing of infants; his very good reasons for the proposition are that rapid operation is especially desirable here, and that the Murphy button is too heavy to be serviceable in these weak tissues. Nine experiments were done on dogs with a rubber cord of 0.3 Mm. thickness, and in one of these an attempt was made to cut out a quadrilateral opening after the manner of Maury, the McGraw technique being followed in all the others. The Maury technique is strongly condemned as being dangerous through the many needle holes as well as being time-consuming. A most ingenious addition to the usual technique enabled the operator to bring the rubber knot away from the needle hole and place it in the center of the new opening, thus avoiding a decubitus at a point near the Lembert suture. Especially is the ligature operation to be desired in the anterior operation, where on account of the recumbent position the button will often drop into the stomach; a good point it would seem. In one case the Lembert suture was placed too near the mesentery of the gut, with a result that intestinal vessels were unavoidably ligated and the gut became gangrenous at the edge of the operator's field, a peritonitis resulting. The ligature operation has been found by the author to be slower than the button, but faster than suture.

The Treatment of Certain Varieties of Carbuncle.—REBOUL (*Archives Provinciales de Chirurgie*. Tome xiii, No. 10).—Broca proposed the extirpation of a carbuncle in 1865, and recommended just the same procedure as would be used if a tumor were under treatment. By this treatment the operator surely arrests the progress of the infection, causes the pain to cease at once, and, in consequence of the extirpation,

repair is rapid and a slight as well as painless scar is secured. In fact it is possible in many instances to partially close the wound with sutures, and in certain location, as upon the lip for example, first intention has been secured. This procedure is warmly recommended in subjects who are not diabetic, albuminuric, cachectic or of advanced age.

The Treatment of Penetrating Wounds of the Heart.—GIBBON (*The American Journal of the Medical Sciences*, September, 1904).—There can be no doubt that the attitude of the older surgeons toward patients who had been so unfortunate as to sustain cardiac injuries was all wrong; at least this is what modern developments would tend to show. There have been many recent successes in penetrating wounds of the heart, where surgical treatment was promptly instituted, though it must be admitted that the prognosis in stab wounds is better than that in bullet wounds, in the light of what has been accomplished. The explanation of this fact may lie in the circumstance that the latter variety of injuries are frequently multiple. It is worthy of note that Nietert, of this city, while surgeon to the City Hospital, was able to report the second successful case of this kind in America. He was further able to demonstrate the hitherto unknown fact that manipulation of the heart is not at all painful. Still, a patient who is not anesthetized may struggle and loosen a clot that has formed, thus exposing his life to fresh danger. When the wound is found the finger should be thrust into it to close it, and then sutures of chrome-gut used; these may penetrate or not and be introduced either in systole or diastole. The necessity of draining pericardium or pleura will depend wholly upon the exigencies of the individual case. In general, the tendency should be as it is with reference to peritoneal wounds, as little draining as can be safely used.

Angiostripsy in Operative Surgery.—PERMAN (*Zentralblatt fuer Chirurgie*, No. 38, 1904).—This convenient method of checking hemorrhage has not not been as generally used in surgery as it deserves to be, because the instruments proposed have not been sufficiently simple, powerful, or durable. The two great benefits of the method are: the furtherance of asepsis and the saving of time in operating. Our author proposes an instrument, or rather a set of instruments, which are designed to fulfill all the requirements. He would use a specially constructed hæmostatic forceps, then after this has been applied, bring to bear upon the same a large and powerful pressure forceps, thus completely crushing all the tissue between the blades of the hæmostat.

He has used this method in many operations, viz., breast, goitre, hernia, etc., but does not advise its use in intra-abdominal operations, for the reason that a secondary hemorrhage is here to be feared.

The original illustrations should be seen that the instruments may be fully understood.

Apropos of Arterial Suture.—DJEMIL PACHA (*Bulletins et Memoires de la Societe de Chirurgie de Paris*, Tome xxx, No. 35).—The author has performed arterial suture with success three times; the first two of these operations, for longitudinal rupture of the axillary artery, having

already been reported. One of these first two cases was so satisfactory that the patient could be shown, nine years later, to have suffered no circulatory disturbance at that remote time. The third operation was undertaken to repair a two-centimeter tear of the external iliac; this was four years ago, still the functional result is perfect. The author is of the opinion that the method is entirely practicable for the treatment of all the large arteries if the tear does not exceed two centimeters in length. As to the technique, fine silk sutures are to be used, and it is practically impossible not to make many of them penetrate all the coats. The wound in the other tissues is to be tightly closed. If the work has been properly done, there need be no worry over thrombosis, aneurism or secondary hemorrhage.

Aseptic Surgical Technique.—OCHSNER (*Annals of Surgery*, October, 1904).—The principles subversed in this very practical and useful paper are pretty well embodied in the author's words: "Simplicity, uniformity, and reasonableness." The patients are prepared, as far as the skin is concerned, upon the day before the operation, to save the time which would otherwise be spent upon the operating table. As to the hands of the operating room personnell, the greatest stress is laid upon the fact that the hands are never to be soiled with pus; instruments and rubber gloves protecting the hands. Gloves are worn by the operator only in the presence of pus, though all assistants wear them in every operation. It does not matter much what disinfectant is used on the hands, or whether any is used, so long as the skin is kept perfectly smooth and plenty of washing in running water with soap, brush and gauze is done. The sterilization of instruments, dressings, etc., is accomplished by heat in the usual manner; but it is worthy of note that Ochsner is one of those who still abides by the disinfection of catgut by chemical means. Many interesting points are elucidated relative to the matter of drainage. The author states that he practically never irrigates during an operation. Contact infection is the only form which is actually to be dreaded in surgery; hence it is to the avoidance of this form of danger that attention has been paid.

THERAPEUTICS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

The Treatment of Inebriety.—C. A. MCBRIDE; S. BLACKWELL FENN (*Brit. Med. J.*, April 30, 1904).—McBride vaunts atropine as a specific in the treatment of alcoholism. In an experience of over thirteen years he has rarely found it to fail. He gives the atropin sulphate hypodermically, beginning with gr. 1-300 three times daily, gradually increasing the dose to gr. 1-60. In addition he gives strychnine nitrate hypodermically, rising from 1-60 to 1-20 grain, and also some bitter tonic. Alcoholic beverages are by no means forbidden, but are allowed *ad lib*.

itum. After a few days an aversion to alcohol sets in and after several weeks the "cure" is completed. The aversion to alcohol lasts for years. He reports a number of very striking cases. Fenn also champions the value of atropin injections in these cases. He also combines strychnine injections, and in addition gives the double chloride of gold and sodium, gr. 1-20 every two hours. The patient is allowed all the alcohol he desires, and usually promptly acquires an aversion to the beverages. Sometimes, however, ipecac must be added to ensure this result. The treatment lasts at the most five weeks. About 60 per cent. of the cases result in permanent cures.

While these reports are of much interest, it still remains questionable how great a part suggestion plays in the successful results. At any rate a larger number of observers must have reported similar results before the specific action of atropine in combatting the craving for alcohol can be generally accepted. Moreover, the routine use of so powerful a drug as atropine, and one towards which so many people have an idiosyncrasy, is not free from danger and makes caution imperative.

Lactate of Eucaïn.—A. LANGGAARD; KATZ (*Therap. Monatshefte*, August, 1904).—While beta-eucaine has come into general use for purposes of regional and infiltration anesthesia, it has not been able to replace cocaine for anesthetizing mucous membranes, in spite of the fact that it is just in operations upon mucous membranes that we most often desire a substitute for cocaine. The ischemia and shrinkage produced by cocaine while often of value is, on the other hand, frequently a very undesirable complication, making operation more difficult and causing post-operative hemorrhage. Moreover, the large amount of cocaine that is often necessary to produce sufficient anesthesia for operative purposes, involves the danger of systemic poisoning. Beta eucain possesses none of these disadvantages; it produces no ischemia, does not shrink the tissues, and is only one-fourth as poisonous as cocaine. Its drawback, however, is its poor solubility, solutions of 3 1-2 to 4 per cent. being the strongest obtainable at room temperature. Accordingly, Professor Langgaard has produced a lactic acid salt of eucaïn, which has all the advantages of eucaïn, and is much more soluble, a 22 1-2 per cent. water solution, or a 13 per cent. alcoholic solution being easily obtainable. He suggests for use in ophthalmology 2 to 3 per cent. solutions; in dentistry, also 2 to 3 per cent.; for infiltration anesthesia, 1-8 per cent.; for regional anesthesia, 2 to 5 per cent., for nose, throat and ear work, 10 to 15 per cent.

Professor Katz has used eucaïn lactate in his great clinic with very satisfactory results. Where he desires an ischemia as well as an anesthesia he combines with the eucaïn lactate adrenalin and milk sugar.

Treatment of Measles by Means of Red Light.—(*Die Therap. der Gegenw.*, September, 1904).—By analogy with the good effects produced in variola by means of the exclusion of all light except the red rays, attempts have been made to utilize the same principle in the treatment of the other acute exanthemata, such as erysipelas, measles and the like. At the meeting of the Madrid royal medico-chirurgical academy held on May 25, 1903, in the course of a discussion relative to the great epi-

demic of measles that raged in Madrid, a number of observers (Valle y Aldabalde, Prada, Cerillo), reported their experiences with red light in this condition. They unite in pronouncing the procedure entirely without value. Moreover, the red light is very disagreeable to the patients and renders the observation of the eruption more difficult, so that further experiment in this direction does not seem advisable.

Acute Tetanus Cured by Intraneural Injections of Antitoxin.—W. S. SCHLEY (*Med. Record*, October 15, 1904).—Since, as is now well established, the toxin of tetanus reaches the central nervous system by entering the axis cylinders through the terminal muscle plates, thence ascending the nerve trunks to the cord and brain, and since the antitoxin follows the same route, it is clear that but little curative power can be expected from hypodermic injections of tetanus antitoxin. The value of prophylactic injections of tetanus antitoxin is undoubted, but when convulsions have once set in, hypodermic injections of antitoxin can no longer avail. The exposure, by operative procedure, on the other hand, of the nerves of the part affected and the injection of antitoxin into their trunks, allows not only a direct entrance for the antitoxin with consequent saving in time, but blocks the path for further toxin absorption by neutralizing that which is ascending. The nearer to the affected cells in the spinal cord the antitoxin serum can be placed the better. Lumbar puncture (or even a higher one) should be done, the nerves of the cauda equina should be scratched and antitoxin injected. Rogers, as well as Meyer and Ransom, have suggested the applicability of laminectomy to enable one safely and surely to scratch the cord and to inject antitoxin into it and have reported a number of cases successfully so treated. Schley reports an interesting case of acute tetanus successfully treated by means of the intraneural and intraspinal injections of tetanus antitoxin. The patient, a boy of five years, seven days before he was taken sick, had stuck a very small sliver of wood beneath the skin on the outer side of the right knee. On June 18th he complained of his jaws feeling stiff, and the next day the first marked spasm occurred. On June 20th moderate opisthotonos with slight fever, etc., set in. That night the operation was performed. The anterior crural and sciatic nerves were exposed for one and one-half inches and raised on a flat probe. Injections were made with a fine hypodermic needle and well up and down the nerve trunk, the needle being inserted several times in order slightly to wound the filaments, 3 c. c. antitoxin being injected into each trunk. A lumbar puncture made between the second and third lumbar vertebræ, and after allowing a small amount of fluid to escape, 3 c. c. antitoxin was injected. At the same time an attempt was made to scratch the nerves of the cauda equina. Ten c. c. of serum was then given subcutaneously. During the next six days the injections were repeated, the convulsions continuing with decreasing frequency and severity and the case finally resulting in complete recovery. The patient received nearly 180 c. c. antitoxin some of which, however, was lost in intraneural injection and in wound packing.

This is the fourth case of tetanus reported as so treated. Two of the four were cases of early development, and all of them might be called at least moderately severe. That all of them resulted in recovery marks

the intraneural and intraspinal injection of antitoxin as the most promising method of treating tetanus as yet advanced.

Medical Treatment of Deep-Seated Hemorrhage.—F. HARE (*The Lancet*, October 1, 1904).—The writer urges the use of amyl-nitrite in hemoptysis. In thirteen attacks of hemoptysis, twelve tuberculous and one cardiac, the bleeding ceased in all but one in three minutes. The writer thinks that the sudden fall of the blood pressure permits some coagulation and plugging of the leak, and that this is usually adequate to resist successfully the subsequent rise. The rationale of the treatment is evidently identical with that in which the administration of nitroglycerine is the central feature.

Treatment of Nephrolithiasis.—J. DECKER (*Muench. Med. Wochenschr.*, No. 39, 1904).—The crucial point in the treatment of cholelithiasis lies in the question whether it should be surgical or hygienic and medicinal. The radicals on the one side would have every gall-stone patient submit to an operation as soon as the diagnosis has been made; those on the other side are willing to consider an operation only as a final resort and thereby often reduce the chances of their patients when an operation has become unavoidable. The writer takes his stand between these two extremes. Operative interference is absolutely indicated:

1. In empyema of the gall-bladder.
2. In purulent cholangitis, especially when complicated with hepatic abscess.
3. In adhesions of the gall-bladder with neighboring organs.
4. In chronic obstruction of the common duct.
5. In the hepatic colic without the passage of stones, when the attacks come with increasing frequency and profoundly affect the general condition.

Operation is frequently, though not absolutely, indicated:

1. In perforation of the bile passages.
2. In hydrops of the gall-bladder.
3. In severe acute cholecystitis.

Internal treatment is demanded by:

1. Acute cholecystitis of mild degree.
2. The so-called "successful" attacks in which stones are passed with the stool.
3. Acute obstruction of the common duct.

Of course, no scheme like the above will apply to all cases; each case must be individualized. A wealthy patient, who can submit himself to a long-continued internal course of treatment, can afford to put off an operation longer than one who must be made able again to earn a living as soon as possible.

As regards the internal treatment, the writer discusses first the mechanical gymnastic procedures, then the dietetic regimen, and, finally, the medicinal treatment. Among the first may be mentioned:

1. Athletics, especially riding, rowing, swimming, skating, lawn-tennis and mountain climbing.
2. In-door gymnastics, especially such movements as strengthen the

abdominal muscles and intestinal peristalsis, massage of the abdomen and systematic respiratory exercises.

3. Proper clothing, avoidance of tight lacing.

The diet should be plentiful and varied, containing much proteid, as thereby the formation and circulation of bile is encouraged. To be avoided are highly spiced foods, rich and indigestible dishes, as well as large quantities of alcohol.

As regards the medicinal treatment, the writer confesses himself very skeptical. He has tried and found wanting nearly all the vaunted remedies. He makes an exception only in the case of Karlsbad salts, the effects of which in cholelithiasis he has found excellent, though he confesses himself at a loss to explain the *rationale* of their action. The proper execution of the treatment with Karlsbad salts, however, requires the careful oversight, both of the physician and of a nurse and can best be carried out in a hospital. It may be of interest briefly to summarize his procedure.

On arising the patient drinks slowly three glasses of hot Karlsbad water. Thereupon he does some in-door gymnastics, respiratory and abdominal, followed by a high, hot enema. After a light breakfast he returns to bed and has very hot applications made to the hepatic region for two or three hours. Then for an hour hot applications are made to the entire abdomen, followed by a warm bath, the temperature of which should be 34° R. ($= 109^{\circ}$ F.). Thereupon hot applications are again made to the hepatic region and the patient is given his luncheon preceded by one or two glasses of Karlsbad water. In the afternoon the hot applications to the entire abdomen and to the hepatic region are again made for an hour, each followed by another course of respiration exercises (thirty to fifty deep inspirations). The results of this regimen have been excellent. If after its close the patient has been free from colic for one-half to one year a second course, lasting three to four weeks, should be advised.

Besides the above, the article contains an excellent discussion of the diagnostic difficulties and methods in this disease and its perusal can be warmly recommended.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

About Paroxysmal Hemoglobinuria.—JULIUS DONATH and KARL LANDSTEINER (*Muench. Med. Woch.*, 1904, No. 36).—The theories advanced to explain the pathogenesis of paroxysmal hemoglobinuria, a disease in which, especially under the influence of cold, there occur attacks of hemoglobinuria, have all remained so far unsatisfactory. Donath and Landsteiner have studied, following the methods of Ehrlich, the blood and corpuscles of four cases, and have arrived at exceedingly interesting results. The conclusions from their studies are as follows:

In paroxysmal hemoglobinuria hemolysis is the result of the absorption of a toxic substance, present in the serum of the patient, which absorption only takes place under the influence of low temperatures. This substance is an amboceptor, the activation of which is brought about, at body temperature, by a complement that is present also in the normal serum.

Blood of hemoglobinurics cooled in a test tube shows typical hemolysis when brought to the body temperature, a reproduction of the process taking place within the organism.

The experiments again bring a proof of the activity of the complements in intact blood vessels and in uncoagulated blood.

By special investigations it was found that the temperature to which the blood must be cooled to allow of the absorption of the amboceptor need not be very low, 10 degrees C. in all cases being sufficient, and there is reason to believe that even higher temperature will bring about the phenomenon.

So far it has been impossible to demonstrate the origin of the toxic substance, which may be endogenous (tissues of the patient) or may perhaps be the consequence of a previous infection (syphilis?).

The Disappearance of Heterogeneous Immune Bodies from the Animal Organism.—A. SCHUETZE (Fest. Schr., zum 60. Geburtstag von Robert Koch, Jena, Fischer, 1904).—Schuetze's investigations tried to elucidate the following question: Are heterogeneous bactericidal substances in the same way eliminated earlier from the animal organism than the corresponding homologous substances, as has been shown to be the case with antitoxins? The experiments were made with homologous and heterologous cholera immune sera on guinea pigs, and it was found that homologous serum remains three to four times longer in the guinea pigs than heterologous sera (rabbit, goat). The latter are retained for about the same time. Nevertheless, the duration of the immunity after the administration of homologous serum was much shorter than when an active immunization had been practiced (in guinea pigs two to three months).

The Relation of the Nutrition of Infants to the Origin of Pulmonary Tuberculosis.—ALBRECHT SPECK (*Zeitschr. f. Hyg. u. Inf. Krankh.*, Vol. 48, heft 1).

Statistic and Ethnographic Contributions to the Question of the Relations Between the Nutrition of Infants and Pulmonary Tuberculosis.—HEYMAN (*Zeitschr. f. Hyg. u. Inf. Krankh.*, Vol. 48, heft 1).

These two papers are important as a contribution to the clearing of views now entertained in consequence of Behring's proclamation in wide circles. It is true that a great many of the conclusions drawn by the authors are based upon statistics, but it is fashionable nowadays to look upon such contributions with doubt and derision. The statistics here used, however, are essentially so free from the ordinary sources of error that their weight must be acknowledged even by the greatest skeptic. Speck has conceived the idea of making an extensive investigation into the way in which patients in sanatoria for tuberculosis and in hospitals were fed during their infancy, with especial reference to the

period covering the first three months. He succeeded in collecting 8010 cases, of which 5854 were breast fed and 2516 raised on cow's milk or other food. Reduced to percentages, there were among these cases 73 per cent. of breast fed and 27 per cent. of artificially fed patients. It is unlikely that the 27 per cent. should have acquired tuberculosis from the cow's milk fed to them in their infancy. It is, rather, apparent that for both of these classes conditions must have existed which, without any connection with their nutrition, brought about the infection. The conclusion is, therefore, again arrived at that cow's milk plays no part at all, or only a small part, in the origin of human tuberculosis.

In another direction Heyman attacks the same problem by a research on the conditions of tuberculosis in countries where no cattle are raised, and where cow's milk and beef are not used. The greatest interest in this direction pertains to Japan, and the author comes to the same conclusions as were arrived at by Kanda and Shiga, about which a short note was published in this section in a previous number of this journal. Up to twenty or thirty years ago Japan had no cattle to speak of; the use of milk and beef did not exist, for religious reasons. Only with the invasion of European civilization did cattle raising increase and the use of meat become more familiar to the public. Milk, even today, is limited to the better classes, and only exceptionally employed for the artificial feeding of infants. In spite of this fact, the tuberculosis statistics have remained about the same as they were before. A very interesting point is the fact that the tuberculosis mortality of young children in Japan has been all the time much higher than in any European country, an observation which in itself gives rise to much thought. More shortly the author considers the high tuberculosis rate in Turkey, and especially in Constantinople, where milk and butter are the privilege only of the well-to-do classes. For artificial feeding milk is used only exceptionally. In Greenland milk is excluded altogether, where, nevertheless, as is well known, the mortality from tuberculosis is appalling. In the conclusion of his paper the author discusses the results of the study of German census reports with reference to the tuberculosis mortality and the feeding of infants. As these statistics cover only a few years, their discussion may be omitted here. The proof of the falsity of Behring's opinion cannot be advanced in a more convincing way.

Contribution to the Origin of the Corpus Luteum of the Mammals.—J JANKOWSKI (*Archiv. f. Mikrosk. Anatomie.*, Vol. 64, heft 3).—In view of the lately promulgated theories on the function of the corpus luteum (Born, Fraenkel), assuming a glandular character for this formation, it is of interest to note that the old discussion about the origin of the corpus luteum has so far remained without a positive explanation. The older view of its mesodermic origin, which was entertained by v. Baer, has gradually been forced into the background by the epithelial theory, the main advocates of which were Sobotta and Cohn. The investigations of the latter appeared so conclusive that the glandular theories could be built upon them as a basis. It seems, however, that the older views will regain their reputation. Jankowski's careful work, carried on in Orth's laboratory, seems to show that the corpus luteum cells arise from the tissue of the theca interna, and that they grow into the follicle-

ular space after the follicular epithelium has desquamated and has been eliminated. His pictures are very convincing, and the more so from the fact that he started his investigations at the period when a follicle ruptures. His theory would fully account for the character of the so-called interstitial ovarian tissue, which plays such an important part in the ovaries of many mammals. This would do away with the contradiction which exists between the morphologic and chemical identity of both forms of cells and of their alleged heterogeneous origin. If Jankowski's assertions should prove correct, they would throw great obstacles in the way of a glandular activity. As yet we do not know that mesodermic elements ever perform secretory functions in the way of ductless glands. On the other hand, the resemblance of the corpus luteum cells to epithelia cannot be taken as evidence, as we see an analogous picture in the puerperal changes of the stroma cells of the uterine mucosa.

About the Mode of Infection in Tuberculosis.—O. LUBARSCH (*Fortschr. d. Medicin.*, 1904, No. 16, 17).—The reading of this very impartial and neutral paper is highly instructive, in view of the bitter fight waging just now on the question of the origin of tuberculosis. After considering all of the advanced explanations, Lubarsch draws the following conclusions, which we reproduce in abbreviated form: For all forms of tuberculosis the respiratory organs form the most frequent port of entrance. Progressive pulmonary tuberculosis can arise in the following ways: 1. The inhaled bacilli locate in an apical bronchus of the third to fourth order, causing a tuberculous process at that point, which, later, spreads to other portions of the lungs by way of the bronchi. 2. The bacilli, after passing the bronchi, reach the alveoli, multiply and produce a tuberculo-pneumonic inflammation. 3. They penetrate from the bronchioli to the peribronchial tissue, setting up a lymphangitis (peribronchitis tuberculosa). 4. They arrive, after passing the bronchi or alveoli, in the intrapulmonary part of the lymphatic tissue, and set up lesions here. 5. After passing the lung they are deposited in the bronchial glands, and, from this point, secondarily produce the infection of the lungs, either by way of the circulation or by direct invasion into a bronchus. 6. The rarest occurrence is the infection of the lung through the circulation from an old tuberculous focus.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

Free Bodies in the Fallopian Tubes.—S. J. FEDOROW (*Annales de Gyn. et d'Obstet.*, September, 1904).—The author removed, in a diabetic lady fifty-four years of age, the uterus and appendages, by laparotomy, for cancer. The right tube was found dilated in its outer portion, the abdominal opening of the tube closed. The tubal wall was thickened, and on section a cavity of about walnut size was opened and found filled

with fourteen or fifteen small, round bodies. On microscopical examination these bodies were found to have an adenomatous structure, and in some places a ciliated cylindrical epithelium could be detected. In the author's opinion these free bodies in the tubes (which have been described by a few writers) are always papillomatous growths, which, for reasons not entirely known, have become detached.

Retroversion and Retroflexion of the Pregnant Uterus.—RUDOLPH CHROBAK (*Volkmann's Klin. Vortraege*, No. 377, 1904).—The author begins his interesting monograph with a short historical sketch. It seems that Kulmus, of Dantzig, about 1731, was the first to recognize a backward displacement of a pregnant uterus. As early as 1754 William Hunter described a case of this kind, and good illustrations of the case can be found in this author's famous atlas. (In the well-known picture of Hunter, painted by Sir Joshua Reynolds, this specimen is shown.) The nomenclature of this condition was in a state of considerable confusion until Duehrssen, of Berlin, a few years ago, in a very noteworthy monograph, proposed more exact names for the various degrees and the different forms of malposition of the pregnant uterus. In contradistinction to many modern writers, Chrobak recognizes but two degrees of backward displacement. In the first degree the fundus still remains above the level of the external os; in the second degree it sinks lower than the os. In retroversion the shape and axis of the uterus are either normal or somewhat stretched; in retroflexion, on the other hand, the shape of the uterus is distorted, the axis bent backward.

To Duehrssen is due the credit of having furnished exact descriptions of the various forms of pouching of the uterine walls. This author has established the following forms: (1) *Retroflexio uteri gravidi partialis vera*—pouching of the posterior wall of a retroflected pregnant uterus. (2) *Retroflexio uteri gravidi partialis spuria*—pouching of the posterior uterine wall in an antelected uterus. (3) Pouching of the anterior wall of a pregnant uterus in a small pelvis. (4) Pouching of the lateral wall of a gravid uterus. Chrobak, while accepting Duehrssen's classification, objects to the use of the word "retroflexion" in the second condition, which only resembles a retroflexion. He suggests this anomaly being called "Aussackung" (sacculation).

It is probable that the complication of pregnancy with retroversion is not very uncommon. It is not often seen by the obstetrician, due to the fact that in almost all cases the retroverted and often the retroflected uterus, in an early stage of pregnancy, spontaneously moves into a normal position. Whether in such cases a normally lying uterus, soon after impregnation, on account of its increase in size, fell into retroversion, or whether the uterus was lying in a backward position at the time when impregnation occurred, is a question still under discussion, recent writers leaning more toward the latter theory. A spontaneous correction of the malposition is prevented when the uterine axis has become longer than the true conjugate, if the uterus is fixed in its abnormal position by adhesions or the uterine fundus lies deeper than the cervix.

Next the writer takes up a very careful consideration of the various possible forms of sacculation of the uterine wall. Among the symp-

toms, those of the bladder are usually the first to appear. Patients often complain of a sudden inability to void urine, accompanied by a continuous dribbling from the overdistended bladder. Subsequent necrosis is one of the gravest complications. In a number of cases a compression of the ureters has been observed. Considerable space in this monograph is given to the question of diagnosis of retroflexion of the gravid uterus. The symptoms of the two degrees are arranged in the form of tables. In sacculation considerable difficulty may be experienced in the differential diagnosis between this condition and a pregnancy complicated by a tumor or a retro-uterine hematocele.

As soon as the diagnosis is established, an attempt must be made to replace the uterus. In earlier stages a recurrence of the dislocation is prevented by the insertion of a pessary. The writer mentions all the well-known procedures for the replacement of the uterus, and emphasizes the necessity of first carefully emptying the bladder. A hemorrhage from the bladder may follow catheterization, and the hemorrhage may become so severe that, after futile attempts with cold and hot irrigations, with astringent solutions and adrenalin, it may be necessary to lay the bladder open and pack it. If a catheter cannot be introduced, an incision into the bladder from the vagina is preferable to a suprapubic cystotomy. If all attempts to replace the uterus fail, abortion must be produced by inserting a bougie, or, if the cervix cannot be reached, by puncturing the uterus from the vagina with a trocar. Abdominal section should be reserved for cases complicated by a tumor; the operation is too dangerous, especially in the presence of a necrotic bladder. For extreme cases the opening of the uterus from the vagina, in order to remove the ovum, must be given preference.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

Raw Milk in Infant Feeding.—HALIPRE (*Rev. Mens. des Mal. de l'Enf.*, September, 1904) says that milk, "a living liquid," is killed by pasteurization, and so, of course, by sterilization also. The advantage of sterilization is that the process kills the germs which cause diarrhea. The disadvantage of the process is that it kills the milk, thus rendering it indigestible. If raw milk is *pure*, there is no question of its superiority over pasteurized or sterilized milk. The milk must be obtained from tuberculin-tested herds, taken under strict aseptic precautions, transported rapidly at a constant low temperature. Such milk may be given without reserve to even very young children. If these conditions cannot be realized, it is necessary to continue to sterilize the milk, because it is better to give the child a comparatively germ-free milk, even though it be more indigestible than the raw product.

[Coming from a pediatricist of the French school, this view is of decided interest. In France sterilization of the milk is almost the rule,

and heretofore all the arguments that the American school has brought to bear in favor of raw milk have been coldly received in France. It will be noted that Halipre practically insists upon what we call "certified milk," and it may be added that he has noted the establishment of such a model dairy in Rouen.—ED.]

The Treatment of Tubercular Peritonitis in Children.—In an exhaustive study of the subject of tubercular peritonitis in children, GOEFFERT (*Arch. de Med. des Enf.*, August-September, 1904) summarizes his views as to treatment as follows:

In a child with generalized tuberculosis, acute or subacute, with secondary localized manifestations in the peritoneum, the treatment can only be that of tuberculosis in general.

A child with generalized tuberculosis, subacute or chronic, may show predominating symptoms on the part of the peritoneum; but the poor general condition and the evidences of rapid advance point to generalization of the process. In such cases treatment must, perforce, be symptomatic; ordinarily any treatment is useless.

Finally, tubercular peritonitis, as a localized lesion, is capable of spontaneous cure. It should, in the first instance, be treated medically.

In the ascitic form, laparotomy should not be resorted to at once. It appears, from experimental study, that the fluid itself exercises a bactericidal action, while the fibrin also plays a protective role. In the ascitic cases, therefore, medical treatment alone should be used faithfully for several months. If no improvement sets in, laparotomy or puncture, with washing of the cavity, may be resorted to later on.

In the fibro-caseous form, the author does not think that surgical intervention is of value. Here reliance must be placed solely on medical treatment. The only indication for laparotomy in this class of cases is to be found in the presence of one of two complications—encysted abscess or intestinal obstruction.

The essentials of medical treatment may be summed up as consisting in an abundance of fresh air, perfect rest, and a properly regulated, nourishing diet. With regard to medicinal treatment, the author has had excellent results from the hypodermic use of cacodylate of soda, in doses of one-sixth to one-third of a grain daily.

Acute Rheumatism in Children.—SHEFFIELD (*Post Graduate*, September, 1904) considers it surprising that the "infection theory" of rheumatism has not as yet received due recognition by the profession. He thinks that the lactic acid theory has been thoroughly eliminated, and believes that the discovery of the exact exciting cause will be an event of the near future.

It is probable that the port of entry for the virus is the tonsil or pharynx, as is evidenced by the sore throat which so often precedes the actual attack. The onset of rheumatism in children is usually slow and free from grave symptoms. Pronounced articular symptoms are only rarely met with in young children. Not infrequently the affection is limited to one joint, in which case it may be mistaken for other infectious fevers, particularly influenza, in which condition mono-arthritis is not of rare occurrence.

The articular involvement gives rise to symptoms identical with those seen in the adult, though they are ordinarily milder in degree and of shorter duration. Sometimes, however, the course is protracted and may lead to the suspicion of tubercular arthritis. There is at times thickening of the periosteum, so that incipient osteomyelitis may be suspected. The muscles may also be affected. The tendency to recurrence is as great as in adults. Recurrent attacks of chorea, and severe cardiac manifestations as the result of old valvular lesions, are frequently seen.

Endocarditis and pericarditis are particularly frequent complications of rheumatism in childhood. The endocarditis may precede the actual arthritic attack, or it may remain latent for a very long time, or it may run a very violent acute course.

Where pericarditis occurs, it usually sets in early. It is usually accompanied by effusion.

Abdominal pain is common, usually without involvement of the peritoneum, however.

As to treatment, rest in bed is most important, and should be enjoined throughout the course of the disease. During the height of the fever the diet should be the ordinary febrile diet, but in general the dieting of acute rheumatism is nothing but a myth, according to the author.

Medicinally the salicylates are of great value, and should be used throughout the disease. To avoid gastric distress, pepsin or ingluvin should be added. Aspirin is less apt to produce gastric distress.

Locally, wrapping of the joint with warm compresses, with sodium bicarbonate, are of value in the early stages; later on, gentle massage with *ol. gaultheria* and *ichthyol* are useful.

Complications are to be treated according to indications. The value of the iodides in protracted cases should not be lost sight of.

The Influence of Breast Feeding in the Infant's Development.—CHAPIN (*Arch. of Ped.*, August, 1904) says that it has been shown that the composition of milks of different species of animals is closely related to the rapidity with which the young grow; a milk high in proteid being intended for a quick-growing animal, as might be expected. And the milk of any species has uniform characteristics, and is kept by nature within certain narrow limits of variation. Competent dairy students have, therefore, come to the conclusion that it is impossible to alter the composition of cow's milk except by disturbing the cow's nervous equilibrium or digestion, or by underfeeding.

Similarly in the case of nursing mothers who are run down, whose milk is poor, not meeting the nutritive requirements of their children, we cannot alter the composition of the milk at will, as we sometimes think we do when we successfully treat a nursing mother. What we do is to bring about a normal condition of the body and nature does the rest, bringing about the secretion of milk that is normal to that mother.

In artificial feeding little difficulty is experienced on the part of the infant in digesting and assimilating as much fat and carbohydrates as are found in breast milk, but great disturbance is often the result when as much proteid as is found in mother's milk is given. The usual

method of overcoming this difficulty is to reduce the proteid in the food. When it is remembered, however, that the working parts of the body are built up from the proteid of the food, the tremendous advantage of the breast-fed over the bottle-fed baby is at once appreciated. The breast-fed infant is not as susceptible to disease as the bottle-fed baby, and, when attacked, recovers more promptly, as it has more vitality and reserve force. Too much attention has been paid in the past to mere gain in weight, and not enough to the character of the flesh.

Furthermore, the mother's milk is a food that adapts itself to the infant's developing digestive tract. So far as digestion is concerned, nature does not have the young follow the mother's milk, but has the milk ever ready to fit the developing digestive apparatus. Nature intends that the infant at weaning shall have a well-developed and vigorous digestive apparatus, and provides in the casein of milk a food substance that will insure this development. With the differences of the digestive apparatus in the different species of mammals, it is thus unreasonable to think that the milk of one species will adapt itself to the digestive tract of another.

The difficulties in artificial feeding of infants are not merely, as is so often supposed, chemical. They are largely due to physiological differences between human and cow's milk. These differences are more than quantitative ones and the supposed difference in reaction, and this fact has not been sufficiently appreciated. Mere dilution of cow's milk does not make it resemble human milk. In other words, the biologic aspect of infant feeding has not been given the importance that it deserves.

In conclusion the author emphasizes the fact that, as maternal feeding helps in the actual development of the digestive tract, our efforts in artificial feeding must tend in the same direction. A food that agrees is not necessarily the one for continued use, and in the art of feeding there are other factors to be considered besides mere gain in weight.

ORTHOPEDICS.

IN CHARGE OF

NATHANIEL ALLISON, M. D.

The Lorenz Operation as Seen in the American Statistics.—FREDERICK MUELLER, M. D., Chicago (*Illinois Med. Journal*, October, 1904).—Dr. Mueller has the right to take up the fight on the Lorenz side, since he was assistant to Dr. Lorenz when that authority toured this country in 1902, there can be no doubt of the absolute worth of his statements on this much discussed question. His paper under the above title is instigated by the articles written by Dr. John Ridlon in the journal of the American Medical Association last April, in which he reported the "ultimate results" of bloodless hip operations—both his own cases and those done by Dr. Lorenz in Chicago—and incidentally gave the credit to Paci of Pisa of working out the essential points in the operation known as the Lorenz operation. The tone of these papers of Dr. Ridlon's

was one of skepticism and the statistics given did not place the results of the operations done by Dr. Lorenz in a very rosy light. Dr. Mueller says at the beginning of his paper "Dr. Ridlon's statements on the Lorenz method are in need of rectification; otherwise it would seem that we approve of his skepticism." Before he goes into the rectification of Dr. Ridlon's statements, Dr. Mueller takes up the Paci-Lorenz priority discussion and shows that the two methods are not the same, that the Paci movements are something similar to the old Bigelow, *i. e.*, that the reduction when it occurs is accomplished over the inferior rim of the acetabulum; whereas in the Lorenz method the reduction is accomplished over the posterior rim of the socket by the use of *ultraphysiological* abduction. To people who understand the two methods there is no confusion, as they are quite different both in the operation itself and in results. In rectifying Dr. Ridlon's statistics he takes up the statement regarding "anterior transpositions" and says that these cases may be changed into anatomical repositions if properly treated; to prove this he gives a skiagram of a case declared by Ridlon in his report as "anterior transposition" where he obtained an anatomical reposition.

Three cases which passed out of Dr. Ridlon's hands early in the after-treatment and were treated by Dr. Mueller are given, and the results claimed are not those given in Ridlon's statistics. Consequently the statistics are premature and not wholly reliable.

Experiences with Congenital Dislocation of the Hip.—HORVATH, Budapest (*Zeit. f. Orth. Chir.*, xii. 4).—A report of fifty-seven cases is given, of these thirty-four were single and twenty three double, making a total of eighty dislocated joints. Eleven of these went away during treatment, ten were not reducible and in nine there was relaxation and treatment was discontinued. Fourteen cases were reduced anatomically and resulted in cure. Twenty-one cases gave good functional results and fifteen are still under treatment. The author then gives a careful analysis of his cases and deduces the following conclusions: A shortening of 8 cm. means that the case is not reducible; where the shortening is 5.7 cm. the reposition requires great care, watching for paresis and circulatory change. The cases which are most favorable for bloodless reduction are those where the shortening is somewhere between 3 and 4½ cm.

Pes Planus.—HANS SPITZY, Graz. (*Zeit. f. Orth. Chir.*, xli, Heft 4).—The statement so often made that the new born foot is flat, a statement made by Lorenz and others, Dr. Spitzzy disproves this by showing the changes in development in the foot from birth to puberty. He recognizes the former statement made and proved by Dane that the foot is so padded with a layer of fat that it has the appearance of being flat, but it is not really so. To further verify this the author took 100 impressions of infant feet and found that the tuberosity of the scaphoid never touched the underlying surface.

In 300 feet of sucklings the arch was obliterated by pressure and the tuberosity was always above the underlying surface, the average being 12.5 mm. Another demonstration showed that there is always a definite relation between the length of the foot and the height of the arch in the infant as well as in the adult.

The Treatment of Chronic Arthritis by Injection of Vaseline.—BUEDINGER (*Wein. Klin. Woch.*, No. 17; *Abst. Amer. Jour. Ortho. Surg.*).—Dr. Buedinger injects vaseline in chronic arthritis when of neither tuberculous nor gonorrheal type. He claims good results in the slight cases, some improvement in the severe forms and in the old forms a good supplement to the regular forms of therapy. His method of procedure is to heat sterile yellow vaseline and inject, with due precautions, into the joint cavity. The amounts used: 1 to 4 cm. into a knee, 3 cm. into a shoulder and into the smaller joints 1 to 2 cm. Pain arises in one-half to two hours after the injection and lasts two to six days, a sort of low grade synovitis occurring which is characterized by numbness and slight inflammatory swelling.

The Influence of the Adipose Tissue with Regard to the Pathology of the Knee Joint.—A. HOFFA, M. D., Berlin (*Jour. Am. Med. Assn.*, September 17, 1904).—Dr. Hoffa gives a description of the knee joint anatomically which shows that the fatty tumors found in that joint may arise from the fat which is normally in the joint, they do not have to arise from trauma which so injures the synovia that the parasynovial and retrosynovial adipose tissue may escape into the joint, as stated by König, Volkmann and others. The histological details of this condition he and his assistant, Dr. I. A. Becker, have thoroughly worked out and their conclusions are based on a series of twenty-one cases. The tumors are often the size of an egg and are composed of very solid adipose tissue and villi stained by former hemorrhages and containing blood clots of recent ones. Injury plays an important role in the causation of these tumors, and they are often seen in cachectic individuals. The symptoms are somewhat similar to those of floating bodies in the joint, that is, pain on the median side, locking, swelling of the joint on both sides of the patella, showing pseudo-fluctuation. To differentiate this condition from floating bodies the x-ray light is needed at times. In separation of the meniscus the pain is localized exactly within the joint cleft. Operation should not be resorted to until other means of treatment have failed, *i. e.*, massage, compression, etc. If done it should be done with the greatest care and is to be recommended.

The Value of Bier's "Congestive Method" in the Treatment of Joint Tuberculosis.—ALBERT H. FREIBERG, Cincinnati, Ohio (*Amer. Jour. Ortho. Surg.*, August, 1904).—A number of years ago Bier's first work attracted the author, but his interest was short lived, as many cases seemed to be made worse by the treatment, though the underlying principles seemed perfectly sound. The persistence of Bier, however, and the acknowledgment by him that many of his cases had not done well again aroused interest, especially as he stated that too intense application of the treatment was responsible for the baneful results. The author decided to try again using a cotton webbing elastic bandage and applying it only for an hour each day. Originally the compression was carried as far as possible, but now never beyond the "hot stage." Dr. Freiberg believes that it should be employed only as an adjuvant to immobilization and protection. Three cases are reported that certainly point

to beneficial results, one in particular, where amputation seemed to be the only thing that could be done, yielded readily and improved rapidly so that the wrist was saved. Dr. Freiberg thinks the method should be tried in a large number of cases and feels that it will prove to be of definite value.

Superiosteal Fractures of the Humerus in Children.—J. S. STONE, M. D., Boston (*Boston Medical and Surgical Journal*, August 11, 1904).—"When after a fall on the arm or shoulder children are unable to abduct the arm, but present none of the other signs of fracture or dislocation, and are able to move the arm in other directions, most careful examination should be made to determine localized tenderness anteriorly just below the head of the humerus, together with a slight irregularity in the contour of the bone at the same point. These signs are sufficient to establish the diagnosis of fracture of the surgical neck, and should deter one from further attempts by rough handling to secure crepitus or abnormal mobility." Five cases are given where the humerus was fractured. In the first two diagnosis was not made till the presence of callus gave the key to the condition, then x-ray pictures verified the conclusion that the humerus had been fractured. After this lesson cases were diagnosticated at the first examination and the proper treatment given. Good functional results in all.

These fractures are not of the greenstick variety, for they occur in older children, and the x-ray has shown them to be transverse. The impaction, if any, was slight in all cases, as witness the lack of deformity. The absence of the cardinal symptoms of fracture is due to the fact that the periosteum is tough and strong in the child.

The medico-legal importance of recognizing these cases is obvious.

Ankylosis Treated by Arthroplasty, Clinical and Experimental.—JOHN B. MURPHY, Chicago (Read before the American Surg. Assn., 25th Annual Meeting at St. Louis, June 14 to 17, 1904).—Dr. Murphy struck upon the idea of overcoming bony ankylosis by introducing an aponeurosis covered with fat, between the ends of the bones where ankylosis had existed. This he tried on the dog and found that he had produced a serous secreting surface resembling a typical synovial membrane in the sense of a hygroma. He then operated on a man who had right angle ankylosis of the hip, following a gunshot injury. The head of the femur was excised and the fascia lata with its fat and a few fibres of the gluteus muscle were turned into the acetabulum, and the joint sutured. The result of the operation was complete return of function. He mentioned several other cases where the results had been gratifying.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

Some Cases of Family Disseminated Sclerosis.—REYNOLDS (Brain, Summer 1904).—This is an account of three children in the same family suffering from what the author takes to be disseminated sclerosis. Although they are what may be termed aberrant types, there is no question as to the correctness of the diagnosis. It is just this type of the disease in which we are in need of enlightenment, and the chief value of the paper lies in the insistence of the author on the necessity of recognizing this class of cases, which are so often called hysteria, and so treated until the incapacity of the patient is so great that hope of improvement must be given up. The points to be considered in cases of atypical multiple sclerosis are the following: Irregular subjective patches of numbness, often varying, disappearing and re-appearing, sudden falls from the giving way of a leg, slight paralysis of hands lasting for months or years, transitory paralysis of eye muscles, optic atrophy, subjective feelings of giddiness, alteration of handwriting, sudden dropping of articles held in the hand, ataxic movements of the hands and sometimes of the feet, spastic condition of the legs with true ankle clonus, Babinski's toe extension reflex, alteration of speech even very slight. The author calls attention to the fact that in many cases of multiple sclerosis there exists a well marked tendency to a nonprogression of the disease, and that even in well developed cases improvement frequently occurs. In the aberrant forms this tendency seems more pronounced than in the typical forms.

A Further Study on the Sensory Segmental Zone of the Umbilicus.—WEISENBURG (*Review of Neurology and Psychiatry*, October, 1904).—In a previous paper it was shown that the umbilicus lies between the ninth and the tenth thoracic sensory segments. An opportunity to confirm this observation was given by the case of a man who was struck in the back. There was complete paralysis of both lower limbs and loss of sensation below a line drawn around the abdomen about one inch below the umbilicus, resulting from fracture of the vertebræ. A post mortem examination showed that the cord as far as the upper part of the tenth thoracic segment was completely destroyed. This confirmed the findings in the previous paper referred to. The accurate determination of this localization in the cord is important in cases where surgical interference is necessary.

Fecal Vomiting and Reversed Peristalsis in Functional Nervous Disease—**A Summary of Cases and Conclusions.**—WEBER (Brain, Summer 1904).—This is a very timely article on a subject which has labored under such varied views that a correct understanding of its occurrence has been a matter of the greatest difficulty. The paper begins with a historical account of some of the earliest cases found in the literature. The

author's own case is related in great detail, and it forms, in a certain way, a model of cases of this character. The occurrence in this case of a marked degree of tympanites, together with obstinate constipation, and the other symptoms of acute intestinal obstruction caused at various times three laparotomies to be performed. In all of them nothing abnormal in the abdominal cavity was found. In this case there was undoubted fecal vomiting, as rectal enemata colored with methylene blue were ejected from the mouth a short time after they were introduced. A typical attack is thus described: The patient, generally a young woman, but sometimes a man or child, may seemingly be in the bloom of health before the attack. Some distressing mental emotion or other physical or psychical shock is followed by a period of great constipation, and this constipation is accompanied or followed by meteorism (hysterical tympanites) and abdominal pains. There may be severe attacks of vomiting and even some hematemesis. The constipation becomes absolute, and the other symptoms get worse, and finally the condition of hysterical ileus is reached. Then everything taken by the mouth is returned. The vomit becomes fecal in character, and even pieces of formed feces may be ejected by the mouth. Enemata and suppositories may likewise be vomited. Hysterical symptoms such as hemianesthesia and concentric contraction of the visual field are likely to be found if searched for. The main conclusions are as follows:

(1) Functional nervous vomiting, like the hemianesthesias, palsies and spasms of hysteria, must be regarded as due to an abnormal state of the cerebral cortex, and is just as much a symptom of functional brain disease as the vomiting in cases of cerebral tumor is of organic brain disease. (2) Fecal vomiting of functional nervous origin is merely a rare and extremely exaggerated form of ordinary hysterical vomiting. (3) The vomiting in functional brain diseases may be sometimes more violent and severe than it ever is in organic cerebral disease, since fecal vomiting is scarcely known to occur in cases of cerebral tumor. For the occurrence of fecal vomiting of functional nervous origin active antiperistalsis is absolutely necessary. But it is not certain that antiperistalsis necessarily plays a part in the fecal vomiting, known to surgeons as a symptom of organic intestinal obstruction (organic ileus). (5) The fecal vomit in organic obstruction of the bowel is seldom if ever more than feculent, that is to say, having the odor of feces without containing obvious visible fecal particles or masses. Vomiting of formed feces in the absence of malingering and gastrocolic fistula practically only occurs in functional nervous diseases. (6) Hysterical malingering is apt to develop in the same (hysterical) class of patients in whom fecal vomiting occurs, and the possibility of genuine fecal vomiting occurring side by side with simulation must be kept in mind.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. JOHNSON, M. D.

Seminal Vesiculotomy—The Author's Operation.—FULLER (*The Post-Graduate*, October, 1904).—Cutting into and draining the seminal vesicles relieves the inflammatory condition by reason of the drainage, nor does it leave the sexual function crippled, but repairs it by restoring health to the vesicle. The author has operated thirty-three times without mortality. Tubercular cases should not be operated upon.

The Treatment of Catarrhal Pyelitis by Intra-pelvic Injections.—AYRES (*Amer. Jour. Urol.*, October, 1904).—The author claims that many cases of chronic discharges succeeding acute inflammations of the lower urinary passages are due to an unrecognized and untreated pyelitis. Out of fifty cases that had failed to yield to ordinary treatment for such conditions, forty-nine had catarrhal pyelitis. It is in the urine that the characteristic signs are revealed, and in typical cases a diagnosis may be made without recourse to a microscope. Stress is laid upon the appearance of the second urine. Although to the casual glance perfectly clear in cases of catarrhal pyelitis, if held to a strong light, minute particles may be seen floating in it. The particles are much smaller than what are known as prostatic points, and they do not sink to the bottom of the glass, but as the water cools there is found in the center of the glass a mucous cloud. The ureter catheter will demonstrate the presence of an increased number of pelvic cells. Besides the ordinary internal medication for their condition, pelvic lavage has been of immense service in the hands of the author, preferably with a weak solution of nitrate of silver. Thus, pyelitis is of more frequent occurrence than is generally supposed, and is often the cause of prolonged discharge. The local treatment of the pelvis of the kidney is a rational and quite feasible one for this disease, and even a beginning nephritis, when due to pyelitis, may be cured permanently by it. Parenchymatous nephritis treated by pelvic lavage has been wonderfully benefited.

Cancer of the Left Kidney.—CATHELIN (*Amer. Jour. Urol.*, October, 1904).—In this article the author describes and illustrates his segregator, and reports a case, in which, by means of his instrument, he demonstrated that the blood came from the left kidney. When operated upon, the kidney was found to be cancerous and was removed, the patient recovering, being in superb condition two months afterward.

My Experience with the Renal Catheter as a Means of Detecting Renal and Ureteral Calculi.—KELLY (*Amer. Jour. Urol.*, Oct., 1904).—In thirty cases the wax-tipped catheter was used as a means of diagnosis, and in twenty-four of these the wax was scratched, and the diagnosis of a renal or urethral calculus was confirmed by operation. The exact location of a stone in the urinary tract may be estimated by putting little beads of

wax at intervals on the catheter, or waxing the entire length of it. The wax-tipped catheter is made by melting a mixture of olive oil and dental wax (two parts wax to one of oil), dipping the end of the catheter into this and allowing it to harden in the air. The wax tip has never failed the author in urteral calculus, but in renal calculus, if the stone is lodged in dilated pouches, it may fail. The wax tip and the x-ray in diagnosing ureteral and renal calculi are compared, and in the author's hands both are open to some error, but both are of decided value and are confirmatory of each other. The x-ray is not always convenient, is expensive, requires skill, is liable to burn, often fails in very stout patients and uric acid calculi.

A Simple Method of Cystoscopy.—MILLET (*Jour. A. M. A.*, October 15, 1904).—Three years' use of an air cystoscope with water dilatation of the bladder justifies the author in recommending it as a safe, simple and practical method of cystoscopy. As air in the bladder is a foreign body and is more or less irritating, water dilatation of the bladder seems the rational method. With the air-dilating instruments, by reason of their construction, sterile saline solution can be readily used for inflating the bladder. By attaching a fountain syringe, filled with the solution to the instrument, the bladder can be readily inflated and the force of the stream increased or diminished according to the height of the syringe, so that the bladder can be repeatedly filled and emptied, and clots of blood washed away by directing the force of the stream in that direction. Practically, it means transforming an air-inflating cystoscope into an irrigating instrument; an instrument, too, which admits of rapid and thorough irrigation, permits the guiding of the inflowing stream where one wills, and is of greater efficiency than many which have been especially constructed for irrigation.

The Role of Abnormal Vessels in the Pathogenesis of Hydronephrosis.—LEGUEU (*Am. des Mæl. des Org. Urin.*, September 15, 1904).—When, upon operating for intermittent hydronephrosis, we find the pelvis or ureter astride upon an artery or vein of the renal pedicle, we must not always conclude that the hydronephrosis is the cause of this condition. Indeed, it is sometimes caused by the hydronephrosis, and sometimes the hydronephrosis is caused by it. Three cases are reported in which an abnormal disposition of the blood vessels of the renal pedicle caused pressure upon, and obstruction to the ureter. The vessels elbowed across the ureter.

Pyelonephritis in Its Relation with Pregnancy.—LEGUEU (*Am. des Mal. des Org. Urin.*, October 1, 1904).—The influence of pregnancy upon a previously healthy kidney and an already existing pyelonephritis is considered in a thorough manner. Much attention is paid to ureteral compression and renal retention with infection. The evolution of pyelonephritis, with its influence upon the mother and child, and its treatment are spoken of here in detail. The author recommends premature induction of labor for those cases where the pyelonephritis is bilateral and the symptoms sufficiently intense to necessitate intervention. If the disease is unilateral, nephrostomy is justifiable in the first seven or eight months of pregnancy. Later, premature labor should be induced.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Benign Cystic Epithelioma and Its Relationship to So-Called Syringocystadenoma, Cystadenoma, Syringocystoma, and Haemangioendothelioma.—M. B. HARTZELL, M. D. (*British Journal of Dermatology*, October, 1904) believes, from the examination of sections, that this neoplasm springs from the hair follicles, and is in no way connected with the sweat glands or ducts, and that the little tumors described by various authors under the above names are histologically identical. He concludes that the following is inevitable: Either neoplasms, differing widely in origin and nature, may resemble one another so closely histologically as to be practically indistinguishable (which is unlikely), or those who believed they were able to trace the origin of these growths to the sweat-gland ducts, or the blood vessels, based their conclusions upon insufficient evidence. It is therefore altogether permissible, in the existing state of our knowledge of the subject, to regard all these cases which have been so lavishly named simply as varieties of one and the same affection, for which the name benign cystic epithelioma is entirely suitable.

Multiple Lupus Vulgaris; Its Relation to Measles.—H. G. ADAMSON, M. D., M. R. C. P. (*British Journal of Dermatology*, October, 1904).—Cases of lupus in which the lesions are multiple and scattered over different parts of the body have long been recognized, and it has been noticed that the lesions in these cases often appear suddenly and simultaneously. Du Castel was the first to observe the co-relation of measles and multiple lupus. On referring to the accounts of cases recorded since the report of Du Castel in 1898, the constancy with which an antecedent attack of measles is incidentally mentioned is very noticeable. In a typical case the patient, a child, showed patches of lupus vulgaris, varying in size from a split pea to larger patches, distributed over the face, trunk and limbs. Often the lesions showed the apple-jelly character. When they were small one might consist of a single nodule, while the larger patches would be made up of several nodules. Sometimes the lesions are scaly, and suggest, from their distribution and circumscribed character, patches of psoriasis. The patches may vary from half a dozen to fifty in number. The child is frequently in good health, and generally shows no other evidence of tuberculosis. On inquiry as to the origin of the eruption, it was found that at some previous period, it may be months or years, the child had an attack of measles, and that during or soon after the measles the existing lesions suddenly made their appearance, and that they had since remained unaltered, or slowly increased in size or number. The disease may disappear spontaneously without scarring. Tubercular lesions not of the lupus character may have a similar history.

The Relative Importance of Bacterial and Other Factors in the Cause of Skin Diseases.—ARTHUR WHITFIELD, M. D. (*British Journal of Dermatol-*

ogy, October, 1904).—This subject was presented for discussion at the seventy-second annual meeting of the British Medical Association, July 27, 1904. Dr. Whitfield divides parasitic diseases into four classes: (1) Diseases which were obviously contagious, and in which relationship could be traced between the parasite and its cutaneous reaction, *e. g.*, ringworm, favus. (2) Diseases which, while contagious, required a specific soil before the fungus could successfully grow in the skin, *e. g.*, pityriasis versicolor. (3) Diseases in which the parasite was obvious, such as animal parasitic diseases, scabies and pediculosis. (4) Diseases which, while associated with the presence of micro-organisms, were doubtfully contagious, *e. g.*, seborrhœa and acne. In these cases it was a matter of dispute whether the organism was a saprophyte or a parasite. Dr. Whitfield agreed with Sabouraud that the mere presence of micro-organisms in the skin was no proof that they were pathogenic. They must be in a condition of active growth before their toxins could be secreted. Three morphologically different organisms were commonly found in the human skin, the micro bacillus, the bottle bacillus and the gray coccus which did not liquify gelatine. In the second part of the paper, dealing with non-parasitic reactions, Dr. Whitfield expressed his belief that these reactions were the result of internal and external factors working together. He was of the opinion that toxic bodies from the alimentary canal played an important part in the genesis of skin diseases.

An Inquiry Into the Etiology and Nature of Toxic Erythemata.—J. F. SCHAMBERG, M. D. (*Journal of Cutaneous Diseases*, October, 1904).—The variety of causal agents that produce the different expressions of the erythema group are almost legion. The commonly attributable etiological factors may be briefly set forth as follows: Bites of insects and various other local traumatisms, various food stuffs and medicines taken into the alimentary canal, worms, intestinal catarrh, absorption of hydatid fluid, dyspepsia, gouty diathesis, functional and chronic disorders of the uterus, ovaries, etc., surgical operations, particularly upon the abdominal cavity, dentition and fevers. It would appear eminently desirable to classify the kinds of poison which give rise to this class of diseases into the following tentative groups: (1) Bacterial and protozoal toxins, (2) ptomaines, (3) leucomaines and other metabolic poisons (4) drugs.

John of Gaddesden, Variola and the Finsen Light Cure.—H. E. HENDERSON, M. D. (*Cleveland Medical Journal*, October, 1904).—Quite recently the name of John of Gaddesden has become familiar in connection with the Finsen light cure, especially as applied to the treatment of smallpox. Dr. Henderson, in his search of the literature upon that subject, finds that the red wrappings in the treatment of smallpox, which was accredited to John of Gaddesden, was neither original with him, nor had his method anything to do with the chemical effect of the red rays of light as has been stated in various articles. John of Gaddesden's discussion of variola and its treatment he found systematic and as complete as that in modern textbooks. The passage to which special attention has been recently directed is couched in the following words:

"Then take a cloth of scarlet or some other red color and wrap up the patient completely, as I did in the case of the son of his majesty the king of England when he was suffering from this disease (smallpox). In this case I also had all the hangings of the couch made of red material. The case has turned out very satisfactorily, and the patient recovered without a mark of smallpox." The author claims no originality for this method of treatment. As a matter of fact, the treatment of smallpox by scarlet or red hangings was previously mentioned by at least two physicians. One of these earlier writers says: "Then wrap the patient in a woolen cloth of purple or at least of a red color, so that the sight of the red cloth may move the blood to the exterior and may hold it there in a moderate heat, according to the tenor of the sixth canon of Avicenna." Dr. Henderson infers the association of ideas in this treatment to have been somewhat as follows: Scarlet and red have been, from time immemorial, associated with the idea of fire and heat. A scarlet cloth is therefore warmer than a similar cloth of a different color. Warmth applied to the surface of the body encourages the development of eruptive diseases such as smallpox, hence wrapping the patient in a scarlet cloth would especially further the development of the eruption in this disease. It will be seen, accordingly, that the treatment by red wrappings had nothing whatever to do with the modern light cure as developed by Finsen.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

Non-Operative Treatment of Trachoma.—F. J. PARKER (*Med. Record*, September 17, 1904).—Parker affirms that operation should not be regarded as a complete cure, but rather as a means of shortening the time of treatment. Without efficient and prolonged after-treatment, operated cases suffer severe relapses. The presence of small hard follicles, either alone or accompanied by the soft variety, contraindicates operation. In these cases so much force is required to express the follicles that much conjunctiva will be destroyed and subsequent cicatricial changes will take place in the lids. Occasionally severe pannus follows operation.

In follicular trachoma of the soft variety where operation is positively indicated, only about one in six patients will consent. The other five will have to be subjected to non-operative methods. The following slip, which is given to all clinic cases, has been found of great service:

"*Instructions to Those Having Trachoma*—Trachoma is a contagious disease of the eyelids, which if neglected will cause suffering and injury to the sight.

To avoid infecting others, those having the disease should observe carefully the following instructions:

1. They should have their own towels, handkerchiefs, wash cloths

and toilet articles, and under no circumstances should they be used by others.

2. They should sleep alone.

3. Avoid rubbing or touching the eyes, as the contagion may be carried on the fingers and infect others through articles handled.

4. The hands should be cleaned often with soap and water.

5. Treatment should be attended to regularly and continued until pronounced cured by the physician."

The non-operative treatment advocated by Parker is as follows: After thorough cocaineization the everted lids are rubbed three times a week with a hard cotton applicator dipped in bichloride 1-500. At home iced cloths and drops of an organic silver compound morning and night. After the conjunctiva has become smooth the treatment is continued by the application of a solution of tannic acid in glycerin forty grains to the ounce. In the variety with hard follicles the copper sulphate crayon is applied to the conjunctiva, the excess being washed away with boric acid. In the third stage with cicatricial contraction of the lids and pannus, the writer recommends rubbing the conjunctival surface with castor oil and making superficial linear scarifications with the knife. Copper crayon is also useful. Pannus should be treated by hot applications and atropin. Larger vessels may be divided at the corneal margin by the actual cautery.

The Treatment of Pulsating Exophthalmus.—F. W. MURRAY (*Annals of Surg.*, March, 1904).—Pulsating exophthalmus is caused by an arterio-venous aneurism of the internal carotid and the cavernous sinus. Treatment should have for its aim the reduction of pressure in the sinus, thus relieving the congestion in the superior ophthalmic vein. Ligation of the common carotid is apt to be followed by the rapid re-establishment of the collateral circulation (principally through the superior thyroid artery) and consequently the return of the bruit. The known possibility of spontaneous cure has led in some instances to the adoption of palliative medical measures. The chances for improvement by medical treatment are, however, remote and vision may thereby be imperiled. The surgical possibilities are (1) prolonged compression and (2) ligation. The latter has a mortality of only 10 per cent. and is followed by cure in about 80 per cent. In Murray's opinion the aim should be to delay the establishment of the collateral circulation, thereby gaining time for the organization of clots deposited upon the edges of the rupture. The operation of choice should therefore be ligation of the internal carotid.

Ligation of both common carotids has been performed in six cases with no mortality. In two cases a cure was finally effected by tying off the enlarged and pulsating veins at the inner angle of the orbit.

A Case of Congenital Word Blindness.—J. HINSHELWOOD (*Ophthalmoscope*, October, 1904).—In the writer's experience, cases of congenital word blindness are usually seen first by the ophthalmic surgeon who should, therefore, be thoroughly familiar with all the varieties of cerebral defects of vision.

The present case was a boy who experienced the greatest difficulty in

learning to read. In his other studies he was well up with boys of his age. Refraction, visual acuity and fundus were normal. After reading two or three consecutive words, he would come to a stop and could only proceed if allowed to spell the word aloud or spell it silently with his lips. He could take down words from dictation readily and correctly.

Such cases are not very rare, but are, for the most part, unrecognized. The angular gyrus on the left side of the brain is presumably the area where are stored the visual memories of words and letters. Any diminution in the number of cortical cells, possibly also a diminished blood supply would decrease the power of retention of the visual images of words and letters.

In the presence of any decided visual defect the diagnosis would be rather difficult. A double defect for letters and figures is present in some cases. This is explained by the fact that the cerebral areas for the two sets of images are probably contiguous.

In examining the patient, he must not be allowed to spell the word letter by letter, to move the lips silently or to trace the form of the letters with the hand, as these methods appeal to other forms of memory which may be normal.

As a rule the difficulty may be largely overcome. Early recognition is important. The child should be given a number of short reading lessons daily, care being taken to avoid fatigue. In order to deepen the visual impressions by tactile ones the use of block letters is recommended.

Bilateral Amaurosis Following Severe Hemorrhage After Extraction of a Tooth—Partial Recovery.—J. W. STIRLING (*Ophthalm. Rev.*, August, 1904).—The hemorrhage lasted between three and four days, the patient, a boy of four, becoming pulseless and unconscious. On recovering consciousness vision was found to be lost.

Examination two years later showed vision reduced to fingers at six inches, fields concentrically contracted, pupils large and immobile. Ophthalmoscopically, the appearances of partial optic atrophy secondary to optic neuritis. The edges of the disk were lacking in sharpness.

In reported cases the following are the sources of hemorrhage in order of frequency: Intestine, uterus, from leeching, nose, lung and urethra. The blindness is usually bilateral.

Holden's hypothesis—edema and degeneration of the ganglion cells of the retina followed by a similar process in the nerve fibres—is accepted as the most simple explanation of the pathological changes. At the same time it tallies best with the slight swelling and later indistinctness of the nerve head.

SOCIETY PROCEEDINGS.

ST. LOUIS SURGICAL CLUB.

Meeting of October 12, 1904.

The meeting was called to order at 8:55 P. M., Dr. William S. Deutsch in the chair.

TYPHOID PERFORATION—A FAVORABLE CASE.

Dr. Francis Reder read a paper with the above title, for which see page 667.

DISCUSSION.

Dr. Charles Dixon thought the history in the second case pointed to appendicitis rather than typhoid fever, there having been an inflammation at the base of the appendix, followed by sloughing and perforation.

Dr. M. B. Clopton thought Dr. Keen was responsible for the impression that it is not wise to operate during shock. When the operation for perforation was a new one he had seen quite a number of cases operated upon during the first shock, and he thought it most fortunate, as most of those cases operated upon while the shock was on recovered from the operation the best. The matter of greatest importance was the condition of the disease at the time of operation. In the past two or three years he had seen three cases of typhoid perforation that were very instructive. In one case operated upon by Dr. Mudd the perforation occurred in the third week of the disease. The pain was so definite at 5 A. M. that the nurse telephoned the physician in charge, and the patient was seen immediately. Dr. Mudd was called, and saw him at 7:30 or 8 o'clock. Examination of the abdomen was not very satisfactory on account of the great amount of adipose tissue; intoxication following the perforation and the shock were so intense that the patient was more or less obtuse to the pain. The operation was performed at 9 o'clock. During that hour and a half an opportunity was given for observing the effects of the perforation. The speaker had never seen an abdomen fill up faster than that one did. On opening the abdomen it was found filled with a thin cloudy fluid. There was no fibrin. The perforation was about the size of a pin point. Streptococci were found in the fluid. Dr. Clopton had never seen a case of streptococcus peritonitis get well.

The second case was a boy where parents refused operation. The patient died. The last case was of peculiar interest aside from the unusual perforation. The woman was in the second or third week of typhoid of a mild type. Great pain came on rather suddenly, but there were no very severe symptoms. Consultation was held six or eight hours after the attack of pain, but the symptoms were not of sufficient gravity to make her consider an exploration advisable, and she refused to be operated upon. For a week or more no aggravation of the symptoms arose, and the typhoid subsided. About four days afterward the distention of the abdomen became marked, and there was more or less tympanites. Two or three days later she was seen again in consultation, but operation was not advised, because it looked more like a simple paralysis of the gut than anything else. She grew worse, and eight or ten days after the onset of the pain the distension was greater than in any case the speaker had ever seen. Dyspnea was marked, and she was very weak. The pulse was rapid, and the weakness seemed due to the great distension of the abdomen. She was unable to sleep, although her fever was not high. At the autopsy gas gushed forth, and the abdomen was nothing but one big gas sack. The intestines were lying in the back, but not distended. There was no redness of the peritoneum except in the pelvis, and very little there. However, in the omentum and transverse colon there were a great number of blebs or cysts, some as large as an orange and ranging in size to that of a pea, and every little fat globule was distended. There was no fluid save a dram or two in the pelvis. It looked like a gas bacillus, and the smears made at the time showed many of the bacilli. The perforation was found on the ascending colon, half way up, retro-peritoneal, about one-eighth of inch in diameter. This had probably occurred at the time of the onset of the pain. There was an abscess about one cm. in diameter that contained pus. There was also a small abscess in the transverse colon, or, rather, in front of the transverse colon, and the gas bacillus had gained entrance here. The woman had evidently died from the gas bacillus, for the typhoid ulcers had practically healed.

The President was much interested in Dr. Reder's paper, and was also glad to see that it brought out such a thorough discussion. In connection with the one case spoken of, a very peculiar case, upon which the speaker recently operated, was called to mind. A patient at the Jewish hospital had been ill there for some time, running a temperature. The medical man in charge diagnosed typhoid, which was verified by a positive Widal. Gradually a swelling developed of a fluctuating character in the right iliac region. The question of some ovarian disease was suggested, but the speaker decided that the swelling was in all likelihood of appendiceal origin, and operated accordingly. In cutting down on the mass the intestine was found agglutinated to the peritoneum and the appendix obliterated. A large quantity of thick pus was evacuated from behind the cecum. After washing and draining with gauze for a few days the patient's temperature dropped to normal, and healing followed without a fecal fistula. At the end of the third week following the operation a slight rise in temperature was noticed, with no other symptoms present, bowels moving regularly, and it is a question whether there was really a double infection of typhoid and appendicitis in this patient originally, which now, since the more acute trouble around the cecum and appendix had been relieved, allowed the typhoid infection to again assert itself.

Dr. Nathaniel Allison said that in his experience typhoid perforation in children was a particularly serious thing. The time lost in waiting for shock to subside was more dangerous than in adults. The one case which he saw that had recovered, operation was done almost immediately, while others, who were stimulated, etc., died. It is a much more rare complication in children than in adults, but when it does occur it is more severe in the former than in the latter.

Dr. John C. Morfit believed this was an ideal case for operative interference, if that very serious complication in a very serious disease could ever be considered favorable for operation. He did not believe, however, that the surgeon was ever justified in urging operation. Intelligent people, able to think for themselves, or having relatives capable of thinking for them, when the conditions were made clear, should be required to decide, and if they decided adversely the surgeon need not reproach himself for not having urged operation. He should always be prepared to operate in these cases, and after the diagnosis had been made the operation could not be done too soon, but there arose the old point that some cases, quite as typical as the one Dr. Reder described, had recovered. It should be remembered that symptoms of perforation occur when no perforation is demonstrated, so that in operating on such cases the patients are subjected to a certain danger.

Referring to the case of gangrenous peritonitis and to Dr. Deutsch's case, he thought it very probable that the latter was one of perforative appendicitis.

Dr. Reder, in closing, said that, as to the calomel, the last dose of one-fourth of a grain was given two weeks prior to the time that the patient died. It was given because the patient complained that he had a very bad taste in his mouth. His condition was such that absolutely nothing was being done except to keep him on a careful diet. Dr. Jonas was correct as to the diagnosis in the second case. The Widal reaction and other tests proved the case to be beyond question one of typhoid. The patient evidently had the ambulatory type. At one time he got out of bed and went out into the hall. The peculiarity about the other case was that perforation took place so late. Perforation is looked for earlier, although Holmes cited a case in which perforation took place after four months. Regarding Dr. Allison's statement as to the rarity of perforation in children, the speaker said that hemorrhages were also very rare. He had never seen that complication in a child. Hemorrhage was also rare in women. Referring to Dr. Dixon's opinion, he was rather inclined to agree with Dr. Dixon, that that was a case of appendicitis. The man lingered along for six weeks, which the speaker had thought was due to an infection caused by the perforation, but the patient certainly had a typhoid look. Replying to a question by Dr. Dixon as to what was meant by "a typhoid look," he said that it was a difficult question to answer, but that when going through a hospital ward an experienced physician could almost invariably point out the patients suffering from typhoid. As to Dr. Deutsch's case, he was inclined to think that Dr. Deutsch was going to have a second abscess formation.

MIXED LARGE AND SMALL ROUND CELL SARCOMA.

Dr. John C. Morfit presented a specimen of mixed large and small round cell sarcoma of the thoracic wall.